United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Illinois Agricultural Experiment Station

Soil Survey of Clark County, Illinois

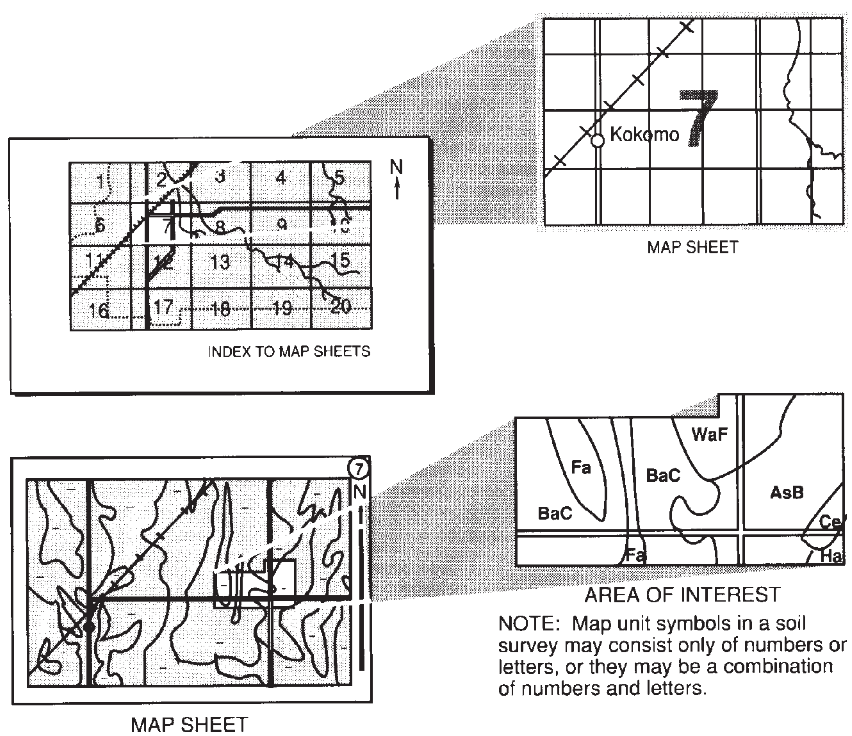
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Clark County Soil and Water Conservation District. Financial assistance was provided by the Clark County Board and the Illinois Department of Agriculture.

Major fieldwork for this soil survey was completed in 2006. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006. The most current official data are available on the Internet (http://soils.usda.gov).

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Nondiscrimination Statement

Cover Photo Caption

Lake at Lincoln Trail State Park. Hickory soils are on the side slopes. Ava and Stoy soils are on the summits of interfluves.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Issued 2009

Numerical Index to Map Units

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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Soil Survey of
Clark County, Illinois

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United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Illinois Agricultural Experiment Station

Clark County is in east-central Illinois (fig. 1). It has an area of 323,685 acres, or about 505 square miles. The county is bordered on the north by Edgar County, on the west by Coles and Cumberland Counties, on the southwest by Jasper County, on the south by Crawford County, and on the east by Vigo County, Indiana, and the Wabash River. In 2000, the population of Clark County was estimated at 17,008. This estimate shows an increase in population of about 6.4 percent since 1990, when census data showed a population of 15,921. Marshall, the county seat and largest city in the county, had an estimated population of 3,777 in 2000 (U.S. Department of Commerce, 2006).

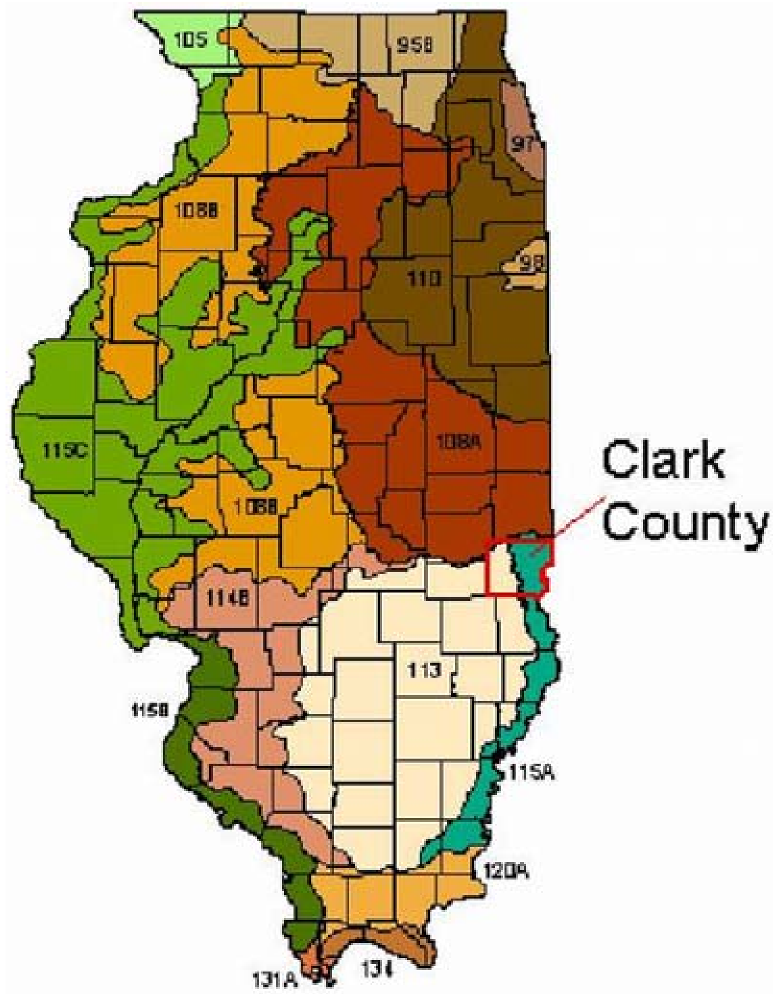
This soil survey updates the survey of Clark County published in 1979 (Awalt, 1979). It provides additional information and has larger maps, which show the soils in greater detail. The survey is also available as an interactive CD and on the Web Soil Survey (WSS). The interactive CD includes text, tables, soil maps, digital topographic quadrangles, and other features along with a GIS engine. The Web Soil Survey can be accessed on the Internet at http://soils.usda.gov/.

General Nature of the County

This section provides general information about Clark County. It describes history and development; physiography, relief, and drainage; natural resources; and climate.

History and Development

Before the 18th century, the main tribes in the survey area were the Piankeshaw and Wea, a Miami group. In the early 1700s, the Kickapoo moved south from Wisconsin, pushing the Piankeshaw and Wea south and east. The Kickapoo



LEGEND

95B—Southern Wisconsin and Northern Illinois Drift Plain
97—Southwestern Michigan Fruit and Truck Crop Belt
98—Southern Michigan and Northern Indiana Drift Plain
105—Northern Mississippi Valley Loess Hills
108A and 108B—Illinois and Iowa Deep Loess and Drift
110—Northern Illinois and Indiana Heavy Till Plain
113—Central Claypan Areas
114B—Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
115A, 115B, and 115C—Central Mississippi Valley Wooded Slopes
120A—Kentucky and Indiana Sandstone and Shale Hills and Valleys, Southern Part
131A—Southern Mississippi River Alluvium
134—Southern Mississippi Valley Loess

Figure 1.—Location of Clark County and the major land resource areas (MLRAs) in Illinois.

remained in control of the land until it was ceded to the United States in two separate treaties.

The western boundary of the first cession in 1804 is known as the Old Indian Boundary Line or the One O'Clock Line. It runs through Clark County, passing through Lincoln Trail State Park near the boat dock and crossing the campground. It

is called the One O'Clock Line because it is said that if you look south from Pilot Grove in Vermilion County, the boundary runs in the direction of the sun at one o'clock in the afternoon. The area west of the original boundary was ceded by the Kickapoo in 1819 (Illinois Department of Natural Resources, 2007).

The Indian Removal Act of 1830 provided funds for President Andrew Jackson to conduct land-exchange treaties with Indian tribes. The remaining Indian tribes in the State moved to areas that are now the States of Kansas and Oklahoma (Access Genealogy, 2007).

Clark County was originally part of the Northwest Territory. The first English-speaking American settlement in Clark County was made on what is known as Union and Walnut Prairies. The first settlers came from Virginia, Ohio, and Kentucky. Many were veteran soldiers of the War of 1812. The towns of York and Walnut Prairie along the Wabash River were settled before 1816. Emigrants from Kentucky, North Carolina, New York, and Ohio made up the population of these new towns on the frontier. Travel overland was slow, and flatboats were used as the fastest mode of transportation. Later, steamboats powered up the Wabash, bringing people and goods. In 1818, not long after the first settlements, Illinois was admitted to the Union (Illinois GenWeb Project, 2007).

In 1827, expansion of the Cumberland Road (National Road) entered the area. This highly traveled route to the West was and still is the main street of Marshall, passing by the north side of the courthouse square. Wagon trains would eventually help to populate areas away from the rivers. Emigration from many European nations as well as from the eastern United States increased. The construction of this road gave Marshall a flow of people and money that resulted in rapid settlement and many public improvements.

The invention and manufacture of the steel plow was a major breakthrough in agriculture and promoted settlement and expansion into the prairies. Installation of drainage tile furthered development of the very fertile prairies.

Another important development for the area was the building of the railroad, which was completed in 1870. The railroad paralleled the National Road and brought new interest and further prosperity to the area. In 1879, the second rail line running from Chicago to the South was completed (Marshall, Illinois, 2007).

Clark County's original county seat was at Aurora, on the Wabash River. The county seat was moved to Darwin in 1823 and to Marshall in 1839 (Ortman, 2007).

Clark County was formed from part of Crawford County in 1819. At that time, the northern border of Clark County ran all the way to what would become Wisconsin. Edgar County was set off from Clark County in 1823, and Coles County was set off from Clark County in 1830 (Illinois GenWeb Project, 2007).

The county was named after George Rogers Clark, a soldier of the American Revolution. As a Colonel of the Virginia militia, Clark established colonial control in the Illinois country through the capture of Kaskaskia and Fort Vincennes (Illinois Department of Transportation, 2007; Illinois State Museum, 2007).

Agriculture is the leading industry in Clark County. In 2002, there were 581 farms on 275,318 acres. Farms averaged about 474 acres in size (USDA, National Agricultural Statistics Service, 2007). The market value of agricultural products sold was about $59.6 million. Corn and soybeans are the main crops. Data from the Illinois Agricultural Statistics Services Web site for the years 1996-2006 provide the following 10-year averages for Clark County: corn was grown on about 101,727 acres with yields of 140 bushels per acre; soybeans were grown on about 106,364 acres with yields of 43 bushels per acre; wheat was grown on about 8,682 acres with yields of 58 bushels per acre (fig. 2); grain sorghum was grown on about 1,489 acres with yields of 91 bushels per acre; and hay-alfalfa was harvested from about 1,457 acres with yields of 3.6 tons per acre. Other hay was harvested from about 3,169 acres and averaged about 2.6 tons per acre (USDA, National Agricultural Statistics Service,

Figure 2.—Wheat nearly ready for harvest in an area of Camden and Shoals soils and corn tasseling in an area of Stonelick soils along the North Fork Embarras River.

2007). The remaining farmland acreage was devoted to livestock production, including pasture and feed lots; miscellaneous crops; and farm infrastructure (including buildings, farm roads, and woodlots) (USDA, National Agricultural Statistics Service, 2007).

The transportation systems in Clark County include U.S. and State highways, county and township roads, railroads, and two airports. Included are Interstate 70, U.S. Highway 40, State Routes 1 and 49, and several county and township roads, which also provide important transportation links. Freight rail service is available in the county, and passenger rail service has boarding in downtown Mattoon in nearby Coles County. Airports include the Casey Municipal Airport and the Kebler airport, near Marshall (Illinois Department of Transportation, 2007).

The larger towns include Casey (population 2,942), Marshall (population 3,771), Martinsville (population 1,225), and Westfield (population 678) (U.S. Department of Commerce, 2007).

Physiography, Relief, and Drainage

Clark County is in the Central Lowland Province of the Till Plains Section and lies mostly within the Springfield Plain physiographic division. The northeast corner of the county lies within the Bloomington Ridged Plain physiographic division (MacClintock, 1929). The Springfield Plain includes the level portion of the Illinois drift sheet in central and southern Illinois. It is characterized mainly by its flatness and by relatively shallow entrenchment of drainage. The Bloomington Ridged Plain includes most of the Wisconsin moraines characterized by low, broad concentric ridges with intervening wide stretches of relatively flat or gently undulating ground moraine. The

outer boundary of the district follows the outer border of the Shelbyville and Westfield moraines (Leighton and others, 1948; Illinois State Geological Survey, 2007).

During the Pleistocene, or ice age, most of Illinois was repeatedly covered by glacial ice. Lobes of ice flowed southward from Canadian centers near Hudson Bay and moved into the central lowland between the Appalachian and Rocky Mountains (fig. 3). Glacial stages lasted tens of thousands of years, and thick masses of snow and ice accumulated. As the ice thickened, the weight of the ice and snow caused them to flow outward at their margins, commonly for hundreds of miles. Pleistocene glaciers and the waters melting from them changed the landscape. The glaciers reshaped or removed the landforms they overrode, leveling and filling many of the

Figure 3.—Extent of glacial advance in North America (from Killey, 1998).

minor valleys and some of the larger ones. Moving ice carried and crushed large amounts of rock and earth, in places for hundreds of miles. According to some estimates, the amount of water drawn from the sea and changed into ice during a glaciation was enough to lower the sea level up to 400 feet below present level. Consequently, the melting of a continental ice sheet provided a tremendous volume of water that eroded and transported sediments. Lower sea levels before the ice melted exposed more land around the boundaries of continents (Illinois State Geological Survey, 2007).

Based on buried soils and glacial deposits, there have been an estimated four to eight separate glaciations in Illinois. According to current theory, the major glaciations, in order from youngest to oldest, are the Wisconsinan, Illinoian, and Pre-Illinoian. Evidence of all of these glaciations can be observed in Clark County.

In most of Illinois, glacial deposits buried the low, hill-and-valley terrain and created the flatter landforms of the prairies. The materials released from the ice are the parent materials of most of the soils in Illinois. The present soil mantle and the buried deposits of gravel, sand, silt, and clay left by the glaciers cover about 90 percent of the State.

The last continental glaciers reached their maximum extent about 26,000 radiocarbon years ago. Areas not covered by ice were much like the boreal forest areas in Canada today. Marshes and glacial lakes were common. Because of the cooler climate, many of the plants and animals that inhabited the area were different from those in the region today. As the ice age ended, the landscape was transformed in general from a boreal forest to a deciduous woodland. Mastodons, mammoths, giant sloths, and saber-toothed cats roamed the forests and scattered wetlands. About 9,000 years ago, the prairie began to replace forests across northern and central Illinois (Illinois State Geological Survey, 2007).

During the Pre-Illinoian and Illinoian Episodes, glaciers deposited drift, as much as 100 feet thick, over Pennsylvanian sandstone, shale, and limestone throughout the survey area. Pre-Illinoian materials outcrop in a few places along Mill Creek in Clark County. The Illinoian materials are commonly within 5 to 10 feet of the surface throughout the county. The upper Illinoian till in Clark County is the Vandalia Till Member of the Glasford Formation. It is a gray sandy diamicton, a mixture of coarse and fine material, with thin layers of silt, sand, and gravel. It includes uniform layers of till, with lenses of silt or sand, that average 25 to 50 feet in thickness across much of the upland. The material is calcareous, except where weathered. The Sangamon Geosol developed in this material or in other Illinoian sediments. The Sangamon Geosol is represented by a weathered zone several feet thick below the modern soil. Where the paleosol is within 5 feet of the ground surface, it becomes a part of the modern soil.

During the Wisconsinan Episode, glaciers crossed into the county and deposited till and outwash along the Nevins and Westfield Moraines. These moraines are part of the Delavan Member of the Tiskilwa Formation. The Tiskilwa Formation is the oldest and lowermost diamicton unit of the Wisconsinan Episode. The Delavan Member, formerly classified as Fairgrange Till, consists of calcareous, brown and gray loam diamicton that contains lenses of gravel, sand, silt, or clay. The average thickness of this member in Clark County is about 100 feet. The material was deposited between 26,000 and 18,500 radiocarbon years ago (Hansel and Johnson, 1996).

The Henry Formation consists of glacial outwash, predominantly sand and gravel, that occurs above the Sangamon Geosol and is either at or near the surface or covered by loess (Willman and Frye, 1970). A terrace system, formed by the Mackinaw facies of the Henry Formation, parallels the current Embarras and Wabash Rivers (Hansel and Johnson, 1996). This system is characterized by sandy gravel or pebbly sand outwash deposited in valleys with more uniform textures than those of other Henry Formation members or facies (Hansel and Johnson, 1996). These

sediments were deposited predominantly during the late Wisconsinan Episode as the Wisconsinan glaciers were retreating from northern Illinois. These deposits provide a very good source of sand and gravel. The Batavia facies of the Henry Formation consists of an outwash plain, 1 to 3 miles wide, skirting all along the leading edge of the terminal moraine of the Wisconsinan Episode. This outwash is typically stratified sand and silt with minor amounts of gravel (Hansel and Johnson, 1996). Outwash areas are commonly pockmarked with small to large gravel pits.

The Cahokia Formation consists mainly of “recent alluvium” represented by mixed or stratified silt, clay, and sand on modernday flood plains. Its thickness varies greatly but seldom exceeds 50 feet. The surface of the formation typically is the surface of the flood plain and the modern soil. In places it is covered by windblown sand, loess, or colluvium from side slopes (Willman and others, 1975) (fig. 4).

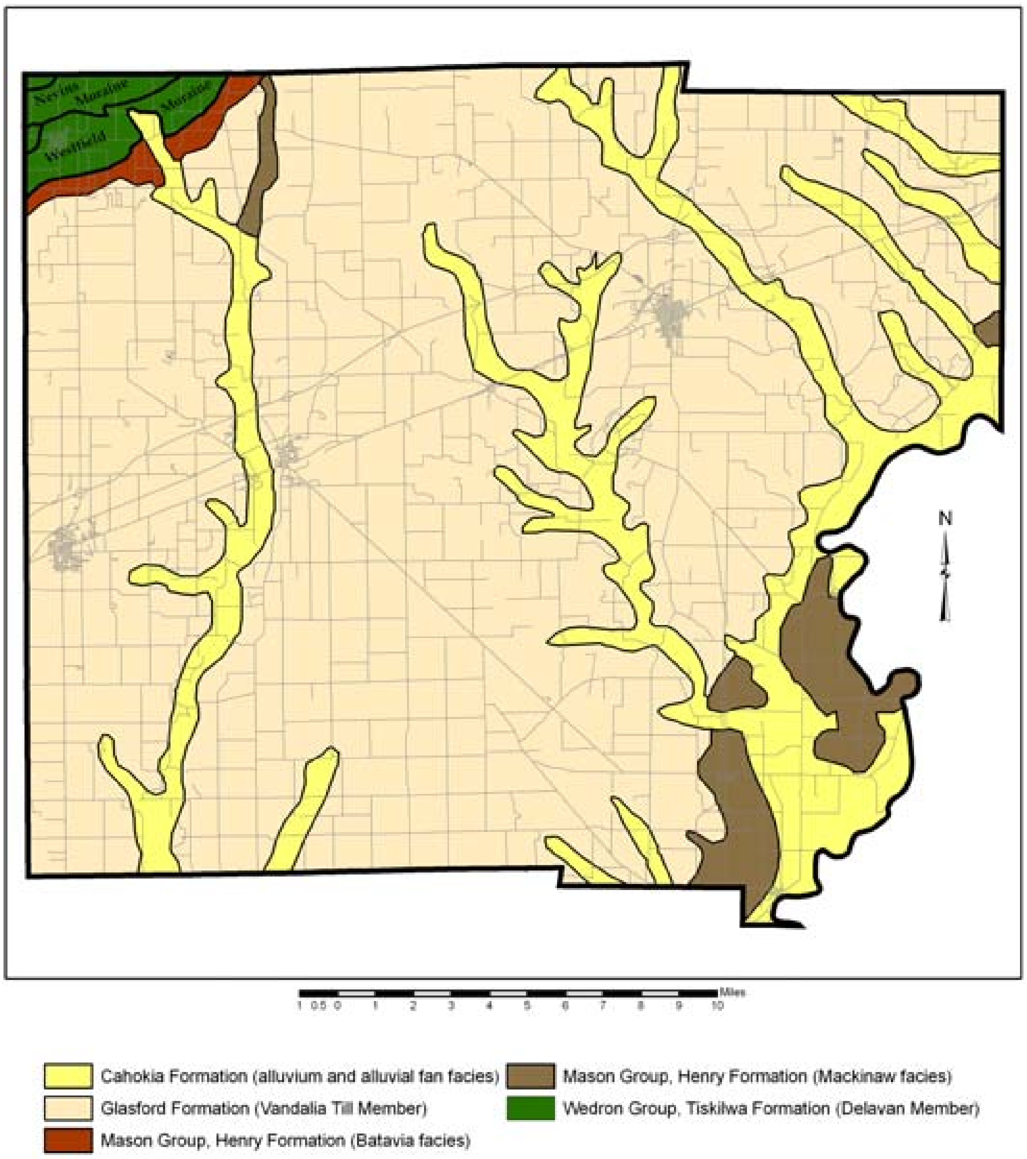


Figure 4.—Quaternary geology in Clark County, Illinois. Source: Data layers modified by USDA/NRCS from the Illinois Department of Natural Resources/Illinois Geographical Information System Digital Data of Illinois (Illinois Department of Natural Resources, 1996; Lineback and others, 1979). Formations renamed based on Illinois State Geological Survey Bulletin 104 (Hansel and Johnson, 1996).

Peoria Silt, also known as windblown silt or Peoria loess, blankets most of the uplands in the county and is at the surface, except where it has been eroded or buried by younger alluvium. It is as much as 10 feet thick along the bluffs of the Wabash River and is about 4 feet thick at the western margin of the county. The Peoria Silt was deposited from about 25,000 to 12,500 radiocarbon years ago.

Roxana Silt lies below Peoria Silt and above the Sangamon Geosol on the Glasford Formation. Roxana Silt typically is silty with properties of leached and oxidized loess. In areas where this formation is thin (less than 1 meter thick), the silt mixes with the sandier underlying drift material and is referred to as the sandy silt facies. The Roxana Silt Formation was deposited about 55,000 to 27,000 radiocarbon years ago (Leigh and Knox, 1993). A paleosol, identified as the Farmdale Geosol, developed in this material. In places where geologic erosion was minimal, this paleosol is still evident (Fehrenbacher and others, 1986; Follmer, 1982; Hansel and Johnson, 1996).

Bedrock outcrops of siltstone, sandstone, shale, dolomite, and limestone are along the Wabash River and its tributaries. Pennsylvanian limestone is currently being quarried near these areaa.

The relief in Clark County is low in most of the upland areas. The greatest change in elevation is in areas along major drainageways and terminal moraines. In these areas, there is a drop of more than 100 feet in elevation from the adjacent uplands. The highest elevation in the county is slightly more than 735 feet above sea level, near the town of Westfield on the Westfield Moraine (fig. 5). The lowest elevation is approximately 430 feet above sea level at the point where the Wabash River leaves the county (Illinois State Geological Survey, 2007).

Figure 6 depicts topographic changes along a straight line across the county from the northwest corner near Westfield to the southeast corner near Union Center and York. The geological materials and their thicknesses are drawn in for conceptual and

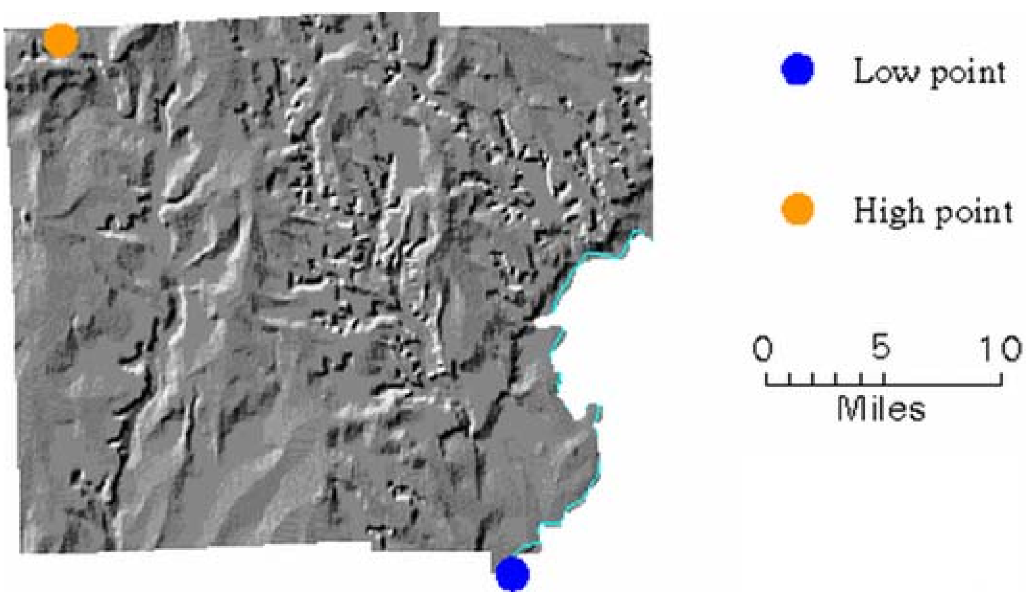


Figure 5.—Shaded relief map showing the highest and lowest elevations in Clark County, Illinois. (Source: Illinois State Geological Survey, http://www.isgs.uiuc.edu/education/hi-low/hilow-intro.shtml)

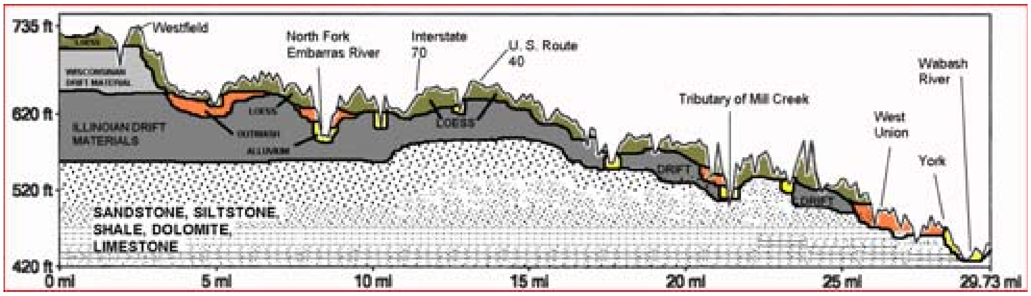


Figure 6.—Elevation cross-section of Clark County, Illinois, from the northwest corner near Westfield to the southeast corner near West Union and York. Source: 3-D Topoquads Copyright 1999 DeLorme Yarmouth, ME 04096; Datum NAD 27.

illustrative purposes and do not represent actual measurements taken along this transect.

The county is drained by the Wabash River. The North Fork Embarras River, Mill Creek, and Big Creek are the major tributaries of the Wabash River. The North Fork Embarras River flows south on the western side of the county and ultimately drains into the Wabash River in Lawrence County. Mill Creek flows south-southeast in the middle part of the county and drains into the Wabash River just south of Walnut Prairie. Big Creek, in the northeast corner of Clark County, flows southeast and drains into the Wabash River about 6 miles southeast of Marshall. The flood plains along these streams and their tributaries generally are flooded annually, and many of the soils in these areas have a seasonal high water table. Most areas are sufficiently drained for the crops commonly grown in the county. Subsurface tile drains or surface ditches have been installed in fields across the county. Some areas on high outwash terraces along the Wabash River are irrigated.

Natural Resources

Extracted natural resources in Clark County include oil and gas, sand and gravel, and limestone. Soil also is a very valuable natural resource; it provides a growing medium for plants, a surface to build upon, a filter for waste products, a sink for carbon, and storage for excess rainwater. In addition, forests and woodlots, impounded surface water as lakes and ponds, sand and gravel aquifers, and bedrock aquifers are among the natural resources in Clark County.

The search for oil and gas began in 1866, when the Clark County Petroleum and Mining Company established its headquarters at Marshall. Natural gas seeps near Oilfield led the company’s owners to believe that commercial quantities of oil and gas were there (fig. 7). Because well casing technology did not yet exist, oil was not commercially pumped until 1904. From 1904 to 1990, 2,150 wells were drilled and completed in this area. Cumulative oil production for the Clark County division since 1904 is about 90 million barrels (Illinois State Geological Survey, 2007; Frankie and others, 1994).

Limestone is quarried near Casey and Marshall and has been quarried from a few other small areas in the county. Gravel is mined near Darwin, Marshall, and West Union and from several small areas along drainageways throughout the county. A few small areas were excavated throughout the county for fill dirt. Small borrow pits, quarries, and gravel pits are identified on maps with a spot symbol (Masters and others, 1999).

Figure 7.—This oil well near Oilfield is in an area of Ebbert and Cowden soils. Some soils near wells may have brine damage.

The natural fertility of the soils in Clark County ranges from low to high. Because of the addition of fertilizer and lime, most of the soils are well suited to the cultivation of crops, particularly corn and soybeans. Many of the soils are nearly level or gently sloping and formed in medium textured material under prairie grass or either wooded or mixed wooded vegetation. Combined with a favorable climate, these factors result in good potential for highly productive farmland.

At the time of settlement, about 70 percent of the county was forested. About 67,000 acres in Clark County is still woodland (fig. 8). Most of the woodland is along the major streams and their tributaries. Woodland remains in these areas primarily because excessive slope, low fertility, and shallowness to bedrock make them less than ideal for use as farmland. Woodland provides important wildlife habitat and recreational opportunities and enhances watershed protection (Iverson and others, 1989).

The county has approximately 2,084 acres of impounded water. Mill Creek Lake, the largest single body of impounded water, is about 697 acres. The lake at Lincoln Trail State Park is about 146 acres. The remaining 1,241 acres of impounded water is in about 890 small lakes, farm ponds, and miscellaneous water bodies scattered throughout the county. Gravel pit ponds along major streams also are included in this total acreage.

Potential aquifers are in areas underlain by sand and gravel. Sand and gravel deposits are in the fill of river valleys, in buried bedrock valleys, and where outwash lies in front of the Westfield Moraine (Illinois State Geological Survey, 2007; Frankie and others, 1994). These areas are tapped for water supplies for small municipalities and rural residents. The cities of Casey, Marshall, Martinsville, and Westfield rely on protected wells for their water supplies. Rural areas also rely on water districts that get their water from wells (Illinois Environmental Protection Agency, 2007).

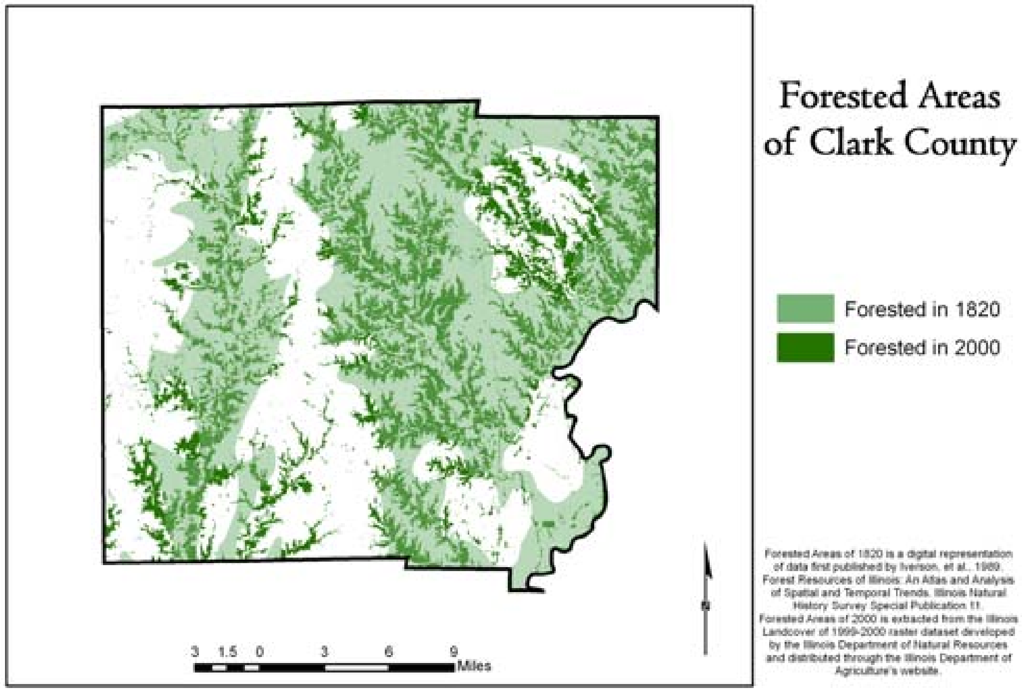


Figure 8.—Areas of Clark County in forestland in 1820 and 2000 and the extent of prairie soils. Soils that formed under forest vegetation typically have a light-colored surface layer, and soils that formed under prairie vegetation have a dark surface layer.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Palestine, which is in Crawford County, in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 32.4 degrees F and the average daily minimum temperature is 24.1 degrees. The lowest temperature during the period of record, which occurred on December 22, 1989, is -23 degrees F. In summer, the average temperature is 75.5 degrees F and the average daily maximum temperature is 86.4 degrees. The highest temperature, which occurred on July 14, 1954, is 114 degrees F.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 42.95 inches. Of this total, 26.8 inches, or about 63 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall on record is 6.10 inches at Palestine on July 11, 1958. Thunderstorms occur on about 48 days each year, and most occur between April and August.

The average seasonal snowfall is 18.6 inches. The greatest snow depth at any one time during the period of record was 21 inches recorded on December 13, 1985. On average, 20 days per year have at least 1 inch of snow on the ground. The number of

such days varies greatly from year to year. The heaviest 1-day snowfall on record is 14.5 inches recorded on January 26, 1904.

The average relative humidity in midafternoon is about 52 percent in May and June and about 70 percent in December. Humidity is higher at night, and the average at dawn is about 84 percent in most months. The sun shines 70 percent of the time possible in summer and 48 percent in winter. The prevailing wind is from the south in most months, but it is from the northwest in January, February, and March. Average windspeed is highest, around 13 miles per hour, in March.

How This Survey Was Made

Land resource regions (LRRs) and their component major land resource areas (MLRAs) serve as a basis for making decisions about national and regional agricultural and natural resources issues. These land categories group geographical areas that are characterized by a particular pattern of soils, climate, water resources, and land use. Major land resource areas are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and potential natural vegetation (USDA, 2006). Clark County, Illinois, is in land resource region M, Central Feed Grains and Livestock Region, and in MLRAs 108A (Illinois and Iowa Deep Loess and Drift, Eastern Part), 113 (Central Claypan Areas), and 115A (Central Mississippi Valley Wooded Slopes, Eastern Part) (fig. 1) (USDA, 2006).

Soil surveys are updated as part of maintenance projects that are conducted for an MLRA or other region. Maintaining and coordinating soil survey information within a broad area result in uniformly delineated and joined soil maps and in coordinated interpretations and map unit descriptions for areas within each MLRA.

Updated soil survey information is coordinated within the MLRA or other region and meets the standards established and defined in the memorandum of understanding. Soil surveys that are consistent and uniform within a broad area enable the coordination of soil management recommendations and a uniform program application of soil information.

This soil survey was made to provide updated information about the soils and miscellaneous areas in Clark County. Map unit design and the detailed soil descriptions are based on the occurrence of each soil throughout an MLRA. The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses.

Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; and the kinds of crops and native plants. Soil scientists used soil probes or spades to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. Soil horizons differ in a number of easily seen soil properties, such as color, texture, structure, and thickness. Laboratory testing is used to determine some properties, such as chemical and mineral content, bulk density, and pH.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landform.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil

scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

The soil survey information in this publication was based on a review of field notes, laboratory data, and other data collected during the previous soil survey of Clark County (Awalt, 1979). In addition, data from other soil surveys within MLRAs 108A, 113, and 115 were reviewed. Selected soils were resampled to a greater depth than that studied in the previous survey. Reviewing data on a regional basis can result in improved consistency in the identification, classification, and interpretations of soils on similar landscapes.

Aerial photographs used in this survey were taken in 1998 and 1999. Soil scientists also studied U.S. Geological Survey topographic maps (enlarged to a scale of 1:12,000) and orthophotographs to relate land and image features. Specific soil boundaries were drawn on the orthophotographs. Adjustments of soil boundary lines were made to coincide with the U.S. Geological Survey topographic map contour lines and tonal patterns on aerial photographs.

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

Factors of Soil Formation

Soil is produced by soil-forming processes acting on materials deposited or accumulated by geologic agents. The characteristics of the soil are determined by (1) the physical and mineralogical composition of the parent material; (2) the climate under which the soil formed; (3) the plant and animal life on and in the soil; (4) the relief, or lay of the land; and (5) the length of time the forces of soil formation have acted on the parent material (Jenny, 1941).

Climate and plant and animal life are the active factors of soil formation. They act directly on the parent material, either in place or after it has been relocated by water, glaciers, or the wind. They slowly change the parent material to a natural body that has genetically related layers, or horizons. The effects of climate and plant and animal life on soil formation are modified by relief. In sloping areas, for example, erosion can inhibit the processes of soil formation. Wetness can slow these processes in level areas or depressions. Parent material also affects the kind of soil profile that is formed. Finally, time is needed for changing the parent material into a soil profile that has clearly differentiated horizons.

The factors of soil formation are so closely interrelated in their effects on the soil that few generalizations can be made regarding the effects of any one factor unless the effects of the other factors are known. Many of the processes of soil formation are unknown.

Parent Material

Parent material is the unconsolidated material in which a soil forms. It determines the chemical and mineralogical composition of the soil. Most of the parent material in Clark County is a direct result of the glaciers and sediments of the Illinoian and Wisconsinan age (Willman and Frye, 1970). Although the kinds of parent material are associated with glacial deposits, the properties vary greatly, mostly because of varying methods of deposition. The dominant kinds of parent material in Clark County are till, outwash, loess, mixed loess and drift, and alluvium. These materials were deposited by wind, water, glaciers, and glacial meltwater. In some areas the materials have been reworked by wind or water after they were deposited. Many of the soils formed in more than one kind of parent material. For example, many of the soils in Clark County formed in loess and in the underlying outwash or till (fig. 9).

Till is material laid down directly by glaciers. It consists of clay, silt, sand, gravel, and boulders, all of which are mixed together. Unweathered till is generally alkaline, calcareous, and very dense. Through the processes of soil formation, the upper 1 to 2 meters of the till that is exposed to biological activity becomes less alkaline and less dense. Senachwine and Hickory soils are examples of soils that formed in till.

Figure 9.—This area of Blair and Atlas soils has a mantle of loess over a strongly developed Sangamon Geosol that formed in drift and till of Illinoian age.

Outwash is stratified material deposited by flowing glacial meltwaters. The size of the particles that make up outwash varies, depending on the velocity of the moving water. Typically, outwash is dominated by material that is fine sand or coarser. The coarser material was deposited nearer to the ice or in rapidly moving glacial meltwater streams. Most of the outwash deposits were later covered by loess. In Clark County, coarse outwash material occurs in glacial valley areas now dominated by stream terraces or on small kames or eskers. Stratified, medium textured outwash material was deposited in an outwash plain all along the leading edge of the Shelbyville and Westfield moraines. Camden, Starks, and Brooklyn soils are examples of soils that formed in loess and in the underlying stratified outwash on outwash plains (Batavia facies). Carmi, Disco, Lamont, Ridgway, and Stockland soils (fig. 10) are examples of soils that formed in outwash along valley trains on stream terraces (Mackinaw facies).

Peoria Silt, or loess, is material deposited by the wind. It consists of uniform silt-sized particles that were calcareous before being acted upon by leaching. The meltwaters from the glaciers carried vast quantities of silt, which were deposited in the major river valleys. Winds picked up and carried these silts and deposited them over much of the land. Most of the soils in the county formed at least partially in loess. The thickness of the loess ranges from virtually zero in areas where slopes are very steep to more than 2 meters (80 inches) on the bluffs along the Wabash River. Cisne, Bluford, Blair, Brenton, Ebbert, and Hoyleton soils are examples of soils that formed in loess over other materials within a depth of 2 meters (80 inches). Menfro and Muren soils are examples of soils that formed on deep loess bluffs along the Wabash River (fig. 11).

The sandy silt facies of the Roxana Silt Formation is material composed of mixed silty and loamy sediment from loess and drift material. It typically lies below Peoria Silt and above the Illinoian till in a soil profile (fig. 12). It is commonly weathered and may show signs of stratification, compaction, paleo-

development, or mixing with adjacent parent material layers. Ava, Bluford, Blair, Cisne, Hosmer, Oconee, and Stoy soils are examples of soils that have this material within a depth of 2 meters (80 inches) (fig. 13) (Fehrenbacher and others, 1986; Follmer, 1982).

Alluvium is material that was deposited by floodwater from modern streams. Soils that formed in alluvium are generally stratified in both color and texture. The alluvial soils mostly consist of silty sediments, but in some places the soils have thin layers of loamy and sandy material. Ambraw, Brouillett, Genesee, Jules, Shoals, and Stonelick soils formed in loamy alluvium, and Armiesburg, Darwin, Petrolia, and Tice soils are examples of soils that formed in silty sediments. These alluvial soils occur on active flood plains and are relatively younger than many of the other soils in the county. Consequently, these soils have a weakly developed subsoil. The largest areas of alluvial soils are along the Wabash River and its tributaries (fig. 14).

Climate

Clark County has a temperate, humid, continental climate that is essentially uniform throughout the county. Climatic differences within the county are too small to have caused any obvious differences among the modern soils that have formed in the last few thousand years. The influence of climate becomes more obvious, however, when comparisons are made on a broad regional basis or between modern soils and buried soils, or paleosols.

Climate affects soil formation through its effects on weathering, plant and animal life, and erosion. Cold temperatures can cause many of the processes of soil formation to be halted or restricted. Water from rains and melting snow seeps slowly downward through the soil and allows physical and chemical reactions to take place in the parent material. Where the water can move downward, it moves clay from the surface soil into the subsoil. Water also dissolves minerals and moves them downward through the soil. In soils that formed in limy parent material, leaching has removed calcium carbonate in the upper part of the profile to a depth of more than 40 inches in most of the survey area. As a

Figure 10.—Typically irrigated for crops or excavated for gravel, Stockland gravelly sandy loam, 2 to 5 percent slopes, rarely flooded, occurs along the Wabash River on outwash terraces.

Figure 11.—A profile of the well drained Menfro silt loam, 2 to 5 percent slopes, on a bluff along the Wabash River.

result, other pedogenic processes act on the soil, causing the biochemical breakdown of minerals and the translocation of clay. In addition, with the removal of bases, these soils tend to be strongly or very strongly acid in the upper part.

Climate also influences the kind and extent of plant and animal life. The climate in Clark County has favored tall prairie grasses and deciduous hardwoods. It also has favored the decomposition of plants and animals, which provides humus to the soil.

Heavy, untimely rains can be destructive when they interact with soils that are bare of vegetation. The raindrops disperse the soil particles, thereby contributing to erosion and the formation of crusts. Increased runoff during early spring rains in these areas can cause extensive erosion.

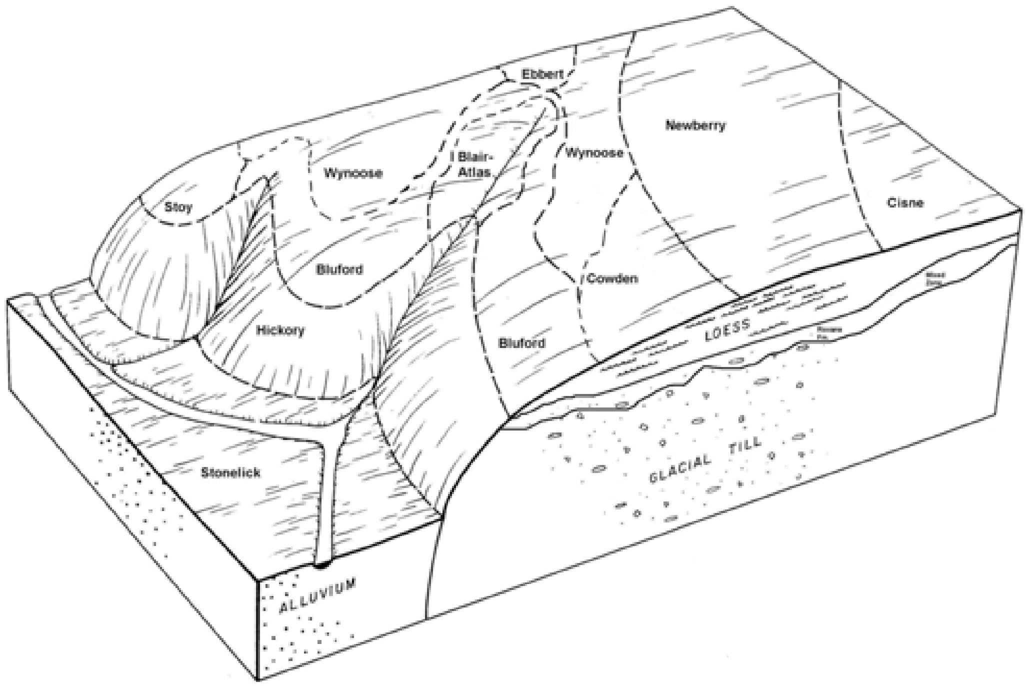


Figure 12.—Block diagram showing the soils-landscape relationship in a dissected claypan area of western Clark County.

Plant and Animal Life

Soils are greatly affected by the type of vegetation under which they formed. The chief contribution of vegetation and biological processes to soil formation is the addition of organic material and nitrogen to the soil. The amount of organic material in the soil depends primarily on the kind of native plants that grew on the soil. The remains of plants that accumulated on or below the surface decayed and eventually became soil organic matter, or humus. The roots of the plants provided channels for the downward movement of water through the soil and added organic matter as they decayed.

The native vegetation in Clark County consisted primarily of tall prairie grasses and deciduous hardwoods. At the time of early settlement, about 30 percent of the county supported prairie grasses (Iverson and others, 1989). These grasses have many fibrous roots that contributed large amounts of organic matter to the soil, especially where they were concentrated near the surface. Soils that formed under prairie vegetation have a thick, black or dark brown surface layer. They generally are in areas of low relief and/or areas where natural drainage was poor or somewhat poor. Brenton, Drummer, Shiloh, and Virden soils are examples of soils that formed on the prairie.

About 70 percent of the county supported timber at the time of early settlement (Iverson and others, 1989). The organic material contributed to the soil by deciduous hardwoods was mainly in the form of leaf litter because the root systems of the hardwoods are less fibrous than those of grasses and generally are not so concentrated near the surface. The soils that formed under forest vegetation have a surface layer that is thinner and lighter colored than that of the prairie soils. Atlas, Blair, Bluford, Hickory, Ridgway, and Senachwine soils are examples of soils that formed under forest vegetation. They generally are along drainageways, on summits of interfluves, and on backslopes.

Figure 13.—A profile of the Stoy series. These soils formed in loess over the sandy silt facies of the Roxana Silt Formation.

Micro-organisms, earthworms, insects, and burrowing animals that live in or on the soil also have affected soil formation. Bacteria and fungi help to decompose plant and animal remains and change them into humus. Burrowing animals, such as earthworms, cicadas, crayfish, and ground squirrels, help to incorporate the humus into the soil and create small channels that influence soil aeration and the percolation of water (fig. 15). Humus is very important in the formation of soil structure and the development of good tilth.

Human activities, such as installing subsurface drains, building levees for flood protection, establishing new construction, and land clearing, have significantly altered the nature of the existing plant and animal communities in the soil ecosystem. These activities have had a direct impact on soils, including increases in loss of soil material and organic material through accelerated erosion as well as changes in drainage. Conservation efforts have had significant and positive effects on the soil landscape and soil health.

Relief

Relief, or local changes in elevation, has markedly affected the soils in Clark County through its effect on runoff, erosion, deposition, and natural drainage. Relief includes landform characteristics, such as position on the landform, slope gradient, slope shape, and slope aspect.

Variations in relief in the county reflect the variety of landforms. The most extensive landforms in the county are ground moraines, end moraines, stream terraces, outwash plains, and flood plains.

Ground moraines generally consist of broad, nearly level and gently sloping interfluves. The relief on ground moraines is less variable than that along tributaries of major streams and rivers. These areas are dominated by such soils as Cisne, Newberry, and Wynoose soils. Where ground moraine is incised by tributaries of major streams and rivers, Atlas, Blair, Hosmer, and Stoy soils are some of the prevalent soils.

End moraines mark a point where the glacier halted its advance. They generally are

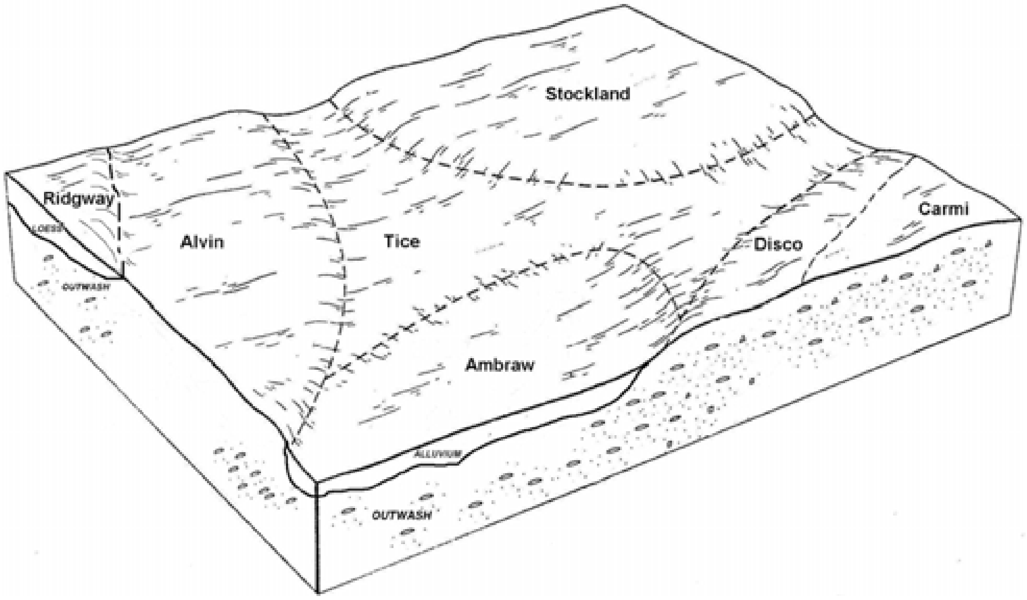


Figure 14.—Block diagram showing soils on terraces and flood plains in the Wabash River valley.

strongly sloping to very steep. Six major moraines extend from west to east across Clark County. Senachwine and Xenia soils commonly occur on these landforms.

Stream terraces occur primarily along the North Fork Embarras and Wabash Rivers and their tributaries. They are generally nearly level and gently sloping areas that lie above adjacent flood plains. Camden, Ridgway, Starks, and Whitaker soils occur on stream terraces in the county.

Outwash plains are nearly level to sloping landforms that generally occur at the leading edge of a moraine. Brenton, Brooklyn, Drummer, and Millbrook soils are examples of soils in these areas.

In areas where the parent material is relatively uniform, differences in natural drainage are closely related to landform position, such as summit, backslope, or toeslope, and to slope gradient and slope shape. Camden and Drummer soils, for example, both formed in loess and in the underlying outwash. Drummer soils are on toeslopes. The slopes are nearly level and are commonly concave. Precipitation and runoff from the higher adjacent soils contribute to the ponding of surface water on the poorly drained Drummer soils. Shiloh soils also receive runoff from adjacent areas (fig. 16). The water in the saturated soil pores restricts the circulation of air in the soil. Under these conditions, naturally occurring iron and manganese compounds are chemically reduced. The reduced form of iron and manganese is more soluble than the oxidized form and can be leached readily from the soil, leaving the subsoil with a grayish color. Camden soils, conversely, are well drained and are on gently sloping summits and backslopes that are convex. The water table is lower in the Camden soils, and some of the rainfall runs off the more sloping surface. The soil pores in the Camden soils contain less water and more air. The iron and manganese compounds are well oxidized, resulting in a brownish subsoil.

Relief also affects the susceptibility to and intensity of both geologic and recent accelerated erosion. Soils on the steeper slopes and in areas where slopes are long are more susceptible to erosion than soils that formed in nearly level or level areas or where slopes are short. Maintaining a cover of vegetation or plant residue on much or all of the soil surface can significantly reduce the hazard of erosion caused by relief. For example, Senachwine soils that have slopes of 18 to 60 percent generally support trees, herbaceous plants, and grasses. Because of the vegetative cover,

Figure 15.—This krotovina was once home to a crayfish in this area of Shiloh silty clay loam, 0 to 2 percent slopes.

these soils are susceptible to little or no erosion. Most areas of Senachwine soils that have slopes of 5 to 18 percent are cultivated. Failure to maintain erosion-control systems on these soils has resulted in moderate or severe accelerated erosion of the surface soil. The loss of surface soil material in one place results in deposition and accumulation in another place, affecting both the rate of soil formation and the development and thickness of soil horizons.

Time

To a great extent, time determines the degree of profile development in a soil. The amount of time available for soil development is strongly influenced by the degree and amount of erosion or deposition of material at any given point in the county.

Figure 16.—A profile of a Shiloh soil, which occurs as a minor component in an area of Cowden soils. The Shiloh soil formed in mixed loess and local wash from nearby slopes and has a Sangamon Geosol at a depth of 72 inches.

The differences among soils resulting from the length of time that the parent material has been in place are commonly expressed in the degree of profile development. Ambraw soils have a very weakly expressed profile because they are on low flood plains that periodically receive new alluvial sediments. Consequently, they have not been in place long enough for the development of distinct horizons. Brooklyn soils, however, which are on outwash plains, are more strongly developed than the Ambraw soils. They have distinct horizons because the loess and underlying outwash in which they formed have been in place a much longer time.

In most upland soils, enough time has passed to allow for the removal of calcium carbonate from the upper 40 inches or more of the profile through leaching. In sloping areas, however, geologic and recent erosion has kept pace with or has exceeded the rate of soil development. Calcium carbonate typically occurs closer to the soil surface in these soils as this leached upper mantle is eroded away. Soils in these areas, such as Senachwine soils, are calcareous within a depth of 40 inches.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 4 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol.* An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalfs (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs

(*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, cation-exchange activity class, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, active, mesic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Hickory series.

Soil Series and Detailed Soil Map Units

In this section, arranged in alphabetical order, each major soil series recognized in the survey area is described. Each series description is followed by detailed descriptions of the associated soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

In some instances, the typical pedon for the series is located outside Clark County. The selection of typical pedons is based on the range of characteristics for the series as it occurs throughout a particular major land resource area (MLRA). The Cisne series, for example, is common in MLRA 113 (Central Claypan Areas), which covers most of central and south-central Illinois. The typical pedon for the Cisne series is located in Jasper County, Illinois. The soil properties of this pedon are representative of the Cisne soils that occur not only in Jasper County but also in Clark County and other counties in MLRA 113.

The map units on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the headings “Use and Management of the Soils” and “Soil Properties.”

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified

by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Bluford silt loam, 2 to 5 percent slopes, eroded, is a phase of the Bluford series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Blair-Atlas silt loams, 5 to 10 percent slopes, eroded, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, gravel, is an example. Some miscellaneous areas that are too small or narrow to be mapped at the scale used for the survey are identified with a special symbol on the soil maps.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

Ade Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Lamellic Argiudolls

Taxadjunct features: The Ade soils in this survey area have more sand than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as sandy, mixed, mesic Lamellic Argiudolls.

Typical Pedon

Ade loamy sand, 2 to 5 percent slopes, rarely flooded, at an elevation of 452 feet above mean sea level; Clark County, Illinois; about 3 miles south of Darwin; 1,200 feet south and 45 feet west of the northeast corner of sec. 10, T. 9 N., R. 11 W.; USGS Fairbanks, Illinois, topographic quadrangle; lat. 39 degrees 14 minutes 28.4

seconds N. and long. 87 degrees 36 minutes 34.8 seconds W.; UTM Zone 16S, 0447387 easting 4343722 northing; NAD 83.

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) loamy sand; weak fine granular structure; friable; slightly acid; abrupt smooth boundary.
A—7 to 12 inches; dark brown (10YR 3/3) loamy sand; weak fine granular structure; very friable; moderately acid; clear smooth boundary.
E1—12 to 19 inches; brown (10YR 4/3) loamy sand; weak medium subangular blocky structure; very friable; slightly acid; clear smooth boundary.
E2—19 to 34 inches; dark yellowish brown (10YR 4/4) sand; single grain; loose; slightly acid; clear smooth boundary.
E3—34 to 42 inches; yellowish brown (10YR 5/4) sand; single grain; loose; slightly acid; abrupt smooth boundary.
E and Bt—42 to 60 inches; brown (10YR 5/3) sand (E); single grain; loose; brown (7.5YR 4/4) loamy sand (Bt); weak medium subangular blocky structure; very friable; common distinct clay bridging between sand grains; lamellae lenses $^1/_2$ inch to 2 inches thick with a combined thickness of 6 inches; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 54 inches
Depth to the base of the argillic horizon: 54 to 77 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—loamy sand
Content of rock fragments—none
Reaction—strongly acid to slightly acid

E horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—loamy fine sand to sand
Content of rock fragments—none
Reaction—strongly acid to slightly acid

E and Bt horizon:
Hue—10YR (E); 10YR or 7.5YR (Bt)
Value—4 to 6 (E); 3 or 4 (Bt)
Chroma—3 to 6 (E); 3 or 4 (Bt)
Texture—sand or fine sand (E); loamy sand, sandy loam, or loam (Bt)
Content of rock fragments—none
Reaction—strongly acid to slightly alkaline

7098B—Ade loamy sand, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Low-lying dunes on stream terraces
Position on the landform: Summits

Map Unit Composition

Ade and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have gravel in the substratum
- Soils that are sloping
- Soils that have sandy loam in the surface layer and subsoil
- Soils that are eroded
- Soils that have a thick dark surface layer

Dissimilar soils:
- The somewhat poorly drained Whitaker soils in landscape positions below those of the Ade soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Ade Soil

Parent material: Eolian sands and/or sandy glaciofluvial deposits
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 2.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Low
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 4s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Alvin Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Alvin fine sandy loam, 2 to 5 percent slopes, at an elevation of 660 feet above mean sea level; Vermilion County, Illinois; about 7 miles north of Danville; 2,320 feet south and 1,760 feet east of the northwest corner of sec. 32, T. 21 N., R. 11 W.; USGS Danville, Illinois, topographic quadrangle; lat. 40 degrees 14 minutes 08.1 seconds N. and long. 87 degrees 36 minutes 57.8 seconds W.; UTM Zone 16T, 0447596 easting 4454087 northing; NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) fine sandy loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; moderately acid; abrupt smooth boundary.

BE—8 to 11 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; very friable; few distinct grayish brown (10YR 5/2) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate fine subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 25 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

E and Bt—25 to 74 inches; yellowish brown (10YR 5/4) loamy fine sand (E); weak medium subangular blocky structure; very friable; strongly acid; dark yellowish brown (10YR 4/6) fine sandy loam (Bt); 3 to 10 percent of volume occurs as common or many thin lamellae; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

C—74 to 80 inches; 80 percent brown (10YR 4/3) and 20 percent yellowish brown (10YR 5/6), stratified fine sandy loam; massive; friable; moderately acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: More than 40 inches
Depth to the base of the argillic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 4
Texture—fine sandy loam
Reaction—very strongly acid to neutral

E, EB, or BE horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 4
Texture—fine sandy loam or sandy loam
Reaction—very strongly acid to neutral

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—loam, fine sandy loam, or sandy loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to neutral

E and Bt horizon (where present):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 6 (E); 3 to 6 (Bt)
Texture—loamy fine sand (E); fine sandy loam or loam (Bt)
Content of rock fragments—0 to 5 percent
Reaction—strongly acid to neutral

C or BC horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—loamy fine sand, fine sand, very fine sand, or fine sandy loam
Content of rock fragments—0 to 5 percent
Reaction—strongly acid to moderately alkaline

131B—Alvin fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Outwash terraces, stream terraces
Position on the landform: Shoulders, summits

Map Unit Composition

Alvin and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the subsoil
- Soils that have a sandy subsoil and substratum
- Soils that have a surface layer of very fine sandy loam or sandy loam
- Soils that have more clay in the subsoil
- Soils that are eroded

Dissimilar soils:
- The somewhat poorly drained Atlas soils on the steeper slopes
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Alvin Soil

Parent material: Sandy eolian deposits and/or glaciofluvial deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

131C2—Alvin fine sandy loam, 5 to 10 percent slopes, eroded

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Backslopes, shoulders

Map Unit Composition

Alvin and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have a sandy subsoil and substratum
- Soils that have a surface layer of very fine sandy loam or sandy loam
- Soils that are severely eroded

Dissimilar soils:
- The somewhat poorly drained Atlas soils on the steeper slopes
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Alvin Soil

Parent material: Sandy eolian deposits and/or glaciofluvial deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

7131B—Alvin fine sandy loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Outwash terraces, stream terraces
Position on the landform: Shoulders, summits

Map Unit Composition

Alvin and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that are eroded

Dissimilar soils:
- The somewhat poorly drained Brouillett and Stonelick soils on flood plains

Properties and Qualities of the Alvin Soil

Parent material: Sandy eolian deposits and/or glaciofluvial deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Ambraw Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls

Typical Pedon

Ambraw clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 448 feet above mean sea level; Clark County, Illinois; 2,550 feet south and 285 feet east of the northwest corner of sec. 15, T. 9 N., R. 11 W.; USGS West Union, Illinois, topographic quadrangle; lat. 39 degrees 13 minutes 23.5 seconds N. and long. 87 degrees 37 minutes 38.6 seconds W.; UTM Zone 16S, 0445845 easting 4341732 northing; NAD 83.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) clay loam, grayish brown (10YR 5/2) dry; weak medium granular structure; firm; many fine roots; slightly acid; abrupt smooth boundary.

A—8 to 14 inches; very dark gray (10YR 3/1) clay loam, gray (10YR 5/1) dry; weak coarse subangular blocky structure; firm; many fine roots; slightly acid; abrupt smooth boundary.

Bg1—14 to 18 inches; dark gray (10YR 4/1) clay loam; weak fine and medium subangular blocky structure; firm; many fine roots; common fine distinct brown (10YR 4/3) and dark brown (10YR 3/3) masses of oxidized iron and manganese in the matrix; moderately acid; clear smooth boundary.

Bg2—18 to 27 inches; dark gray (10YR 4/1) clay loam; moderate fine and medium prismatic structure parting to weak and moderate medium subangular blocky; firm; common fine and very fine roots; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; few medium rounded black (7.5YR 2.5/1) weakly cemented concretions of iron-manganese throughout; common fine faint dark brown (7.5YR 3/2) and common fine prominent brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; moderately acid; gradual smooth boundary.

Bg3—27 to 37 inches; dark gray (N 4/) clay loam; moderate fine and medium prismatic structure parting to weak medium subangular blocky; firm; few very fine roots; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium prominent brown (10YR 5/3), yellowish brown (10YR 5/8), and strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; moderately acid; gradual smooth boundary.

BCg—37 to 45 inches; dark gray (N 4/) sandy clay loam with thin strata of loam and sandy loam; weak coarse angular blocky structure; firm; many medium prominent dark brown (7.5YR 3/2) masses of oxidized iron and manganese in the matrix; many medium prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; slightly acid; gradual wavy boundary.

Cg—45 to 60 inches; dark gray (N 4/) sandy clay loam stratified with pockets of clay loam and silty clay loam; massive; friable; common medium rounded black (7.5YR 2.5/1) weakly cemented concretions of iron-manganese throughout; few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron and many medium prominent dark yellowish brown (10YR 3/4) and brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: More than 50 inches
Depth to the base of the cambic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—clay loam
Content of rock fragments—0 to 3 percent
Reaction—moderately acid to neutral

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—clay loam, clay, or loam
Content of rock fragments—0 to 7 percent
Reaction—strongly acid to neutral

BCg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 or 5
Chroma—0 to 2

Texture—clay loam, sandy clay loam, sandy loam, or loam
Content of rock fragments—0 to 7 percent
Reaction—moderately acid to neutral

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 or 5
Chroma—0 to 2
Texture—stratified clay loam, sandy clay loam, sandy loam, or loam
Content of rock fragments—0 to 7 percent
Reaction—slightly acid to moderately alkaline

3302A—Ambraw clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Ambraw and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a subsoil or substratum of silty clay loam
- Soils that are subject to occasional flooding
- Soils that are less gray in the subsoil and substratum

Dissimilar soils:
- The well drained Ade, Alvin, Carmi, Disco, and Stockland soils on terraces
- The well drained Hickory soils on steep slopes

Properties and Qualities of the Ambraw Soil

Parent material: Loamy alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Armiesburg Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluventic Hapludolls

Typical Pedon

Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 420 feet above mean sea level; Crawford County, Illinois; 1,430 feet north and 2,295 feet east of the southwest corner of sec. 17, T. 5 N., R. 10 W.; USGS Russellville, Illinois, topographic quadrangle; lat. 38 degrees 52 minutes 16.7 seconds N. and long. 87 degrees 32 minutes 57.0 seconds W.; UTM Zone 16S, 0452360 easting 4302638 northing; NAD 83.

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silty clay loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; many very fine and common fine roots; slightly alkaline; abrupt smooth boundary.
A—6 to 14 inches; very dark grayish brown (10YR 3/2) silty clay loam, brown (10YR 5/3) dry; moderate medium angular blocky structure parting to moderate fine subangular blocky; firm; common very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly alkaline; clear smooth boundary.
Bw1—14 to 28 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly alkaline; clear smooth boundary.
Bw2—28 to 40 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots; common faint dark brown (10YR 3/3) organic coatings on faces of peds; slightly alkaline; gradual smooth boundary.
C—40 to 75 inches; yellowish brown (10YR 5/4) silty clay loam; massive; friable; few very fine roots; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 35 inches
Depth to the base of the cambic horizon: 35 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silty clay loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam; clay loam in the lower part
Content of rock fragments—none
Reaction—slightly acid to slightly alkaline

C horizon:
Hue—10YR
Value—3 to 5
Chroma—3 or 4
Texture—silty clay loam, silt loam, or loam
Content of rock fragments—none
Reaction—slightly acid to slightly alkaline

3597A—Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Armiesburg and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil and substratum
- Soils that are more acid in the subsoil and substratum
- Soils that are subject to occasional flooding

Dissimilar soils:
- The somewhat poorly drained Shoals and Tice soils in swales
- The poorly drained Darwin soils on flood plains

Properties and Qualities of the Armiesburg Soil

Parent material: Silty and clayey alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 4.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 3.5 feet, February through April
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Atlas Series

Taxonomic classification: Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs
Taxadjunct features: The Atlas soils in this survey area do not have Vertic properties. This difference, however, does not significantly affect the use or management of the soils. The moderately eroded Atlas soils are classified as fine, smectitic, mesic Aquic Hapludalfs. The severely eroded Atlas soils are classified as fine, smectitic, mesic Aeric Endoaqualfs.

Typical Pedon

Atlas silt loam, 5 to 10 percent slopes, eroded, at an elevation of 528 feet above mean sea level; Crawford County, Illinois; 300 feet north and 1,700 feet east of the southwest corner of sec. 4, T. 7 N., R. 13 W.; USGS Eaton, Illinois, topographic quadrangle; lat. 39 degrees 04 minutes 20.2 seconds N. and long. 87 degrees 51 minutes 56.8 seconds W.; UTM Zone 16S, 0425106 easting 4325155 northing; NAD 83.

Ap—0 to 4 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure parting to weak fine granular; friable; few fine and many very fine roots; few fine irregular masses of oxidized iron and manganese throughout; slightly acid; abrupt smooth boundary.

Bt—4 to 9 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; firm; few fine and many very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; few fine irregular masses of oxidized iron and manganese throughout; strongly acid; clear smooth boundary.

2Btg1—9 to 23 inches; gray (5Y 5/1) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; very firm; common fine and very fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine irregular masses of oxidized iron and manganese throughout; about 1 percent pebbles; strongly acid; gradual smooth boundary.

2Btg2—23 to 34 inches; gray (5Y 5/1) clay loam; moderate medium prismatic structure; very firm; few very fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine irregular masses of oxidized iron and manganese throughout; about 3 percent pebbles; neutral; gradual smooth boundary.

2Btg3—34 to 52 inches; gray (5Y 6/1) clay loam; weak medium prismatic structure; very firm; few very fine roots; common prominent dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine irregular masses of oxidized iron and manganese throughout; about 2 percent pebbles; neutral; gradual smooth boundary.

2Btg4—52 to 68 inches; gray (5Y 6/1) clay loam; weak medium prismatic structure; firm; common prominent dark grayish brown (2.5Y 4/2) clay films on faces of

peds; many coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine irregular masses of oxidized iron and manganese throughout; about 2 percent pebbles; neutral.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: Less than 20 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 42 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam; silty clay loam in severely eroded pedons
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to neutral

B horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 4
Texture—clay loam, clay, silty clay loam, or silty clay
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to neutral

2Bt or 2Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 4
Texture—clay loam, clay, silty clay loam, or silty clay
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to slightly alkaline

2BC, 2BCg, 2BCt, 2BCtg, 2Cg, or 2C horizon (where present):
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 6
Texture—clay loam, clay, or loam
Content of rock fragments—2 to 15 percent
Reaction—slightly acid to slightly alkaline

927C2—Blair-Atlas silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Till plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Blair and similar soils: 50 percent
Atlas and similar soils: 30 percent
Dissimilar soils: 20 percent

Soils of Minor Extent

Similar soils:
- Soils that are severely eroded
- Soils that have a grayer subsoil
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The well drained Hickory soils on steep slopes
- The somewhat poorly drained Shoals soils on flood plains
- The poorly drained Wynoose soils on talfs; in landscape positions above those of the Blair soil

Properties and Qualities of the Blair Soil

Parent material: Loess over mixed loess and drift and/or paleosol formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Blair—3e; Atlas—3e
Prime farmland category: Not prime farmland
Hydric soil status: Blair—not hydric; Atlas—not hydric

927C3—Blair-Atlas silty clay loams, 5 to 10 percent slopes, severely eroded

Setting

Landform: Till plains
Position on the landform: Shoulders, backslopes

Map Unit Composition

Blair and similar soils: 50 percent
Atlas and similar soils: 30 percent
Dissimilar soils: 20 percent

Soils of Minor Extent

Similar soils:
- Soils that are less gray in the upper part of the subsoil
- Soils that are less eroded
- Soils that have more sodium in the subsoil
- Soils that are strongly sloping

Dissimilar soils:
- The well drained Hickory soils on steep slopes
- The somewhat poorly drained Shoals soils on flood plains
- The poorly drained Wynoose soils on talfs; in landscape positions above those of the Blair soil

Properties and Qualities of the Blair Soil

Parent material: Loess over mixed loess and drift and/or paleosol formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 0.5 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Blair—3e; Atlas—3e
Prime farmland category: Not prime farmland
Hydric soil status: Blair—not hydric; Atlas—not hydric

946D2—Hickory-Atlas silt loams, 10 to 18 percent slopes, eroded

Setting

Landform: Hillslopes on till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 45 percent
Atlas and similar soils: 40 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that are moderately deep to carbonates
- Soils that have a brittle subsoil
- Soils that are severely eroded
- Soils that are moderately sloping

Dissimilar soils:
- Soils that have bedrock at a moderate depth
- The somewhat poorly drained Brouillett and Shoals soils on flood plains; in landscape positions below those of the Atlas and Hickory soils

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—4e; Atlas—4e
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Atlas—not hydric

946D3—Hickory-Atlas clay loams, 10 to 18 percent slopes, severely eroded

Setting

Landform: Hillslopes, till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 45 percent
Atlas and similar soils: 40 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that are moderately deep to carbonates
- Soils that are less eroded
- Soils that are moderately sloping
- Soils that have a surface layer of silty clay loam or loam

Dissimilar soils:
- Soils that have bedrock at a moderate depth
- The somewhat poorly drained Brouillett and Shoals soils on flood plains; in landscape positions below those of the Atlas and Hickory soils

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—4e; Atlas—4e
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Atlas—not hydric

Ava Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Ava silt loam, 2 to 5 percent slopes, at an elevation of 440 feet above mean sea level; Edwards County, Illinois; about 10 miles north and 3 miles west of Albion; 925 feet south and 1,575 feet west of the northeast corner of sec. 17, T. 1 N., R. 10 E.; USGS West Salem, Illinois, topographic quadrangle; lat. 38 degrees 30 minutes 56.5 seconds N. and long. 88 degrees 06 minutes 47.2 seconds W.; UTM Zone 16S, 0402959 easting 4263622 northing; NAD 83.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

E—6 to 10 inches; brown (10YR 4/3) silt loam; weak medium platy structure; friable; few fine roots; strongly acid; clear smooth boundary.

BE—10 to 14 inches; yellowish brown (10YR 5/6) silt loam; moderate fine and medium subangular blocky structure; friable; common fine roots; strongly acid; clear smooth boundary.

Bt—14 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; strong fine and medium subangular blocky structure; firm; few fine roots; very few distinct brown (7.5YR 5/4) clay films and very few faint light yellowish brown (10YR 6/4) clay depletions on faces of peds; very strongly acid; clear smooth boundary.

Bt/E—24 to 27 inches; yellowish brown (10YR 5/4) silty clay loam (Bt) and light yellowish brown (10YR 6/4) silt (E), light gray (10YR 7/2) dry; the E material occurs as common distinct clay depletions on faces of peds and as fillings in spaces between peds; moderate fine and medium subangular blocky structure; firm; few fine roots; common medium faint brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; very few fine black (10YR 2/1) concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

B´t—27 to 34 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct brown (10YR 4/3) clay films and few distinct light gray (10YR 7/2) clay depletions on faces of peds; common fine distinct grayish brown (10YR 5/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; very strongly acid; gradual smooth boundary.

2Btx1—34 to 44 inches; grayish brown (10YR 5/2) silty clay loam; moderate very coarse prismatic structure parting to weak coarse subangular blocky; very firm; cracks between polygons filled with light gray (10YR 7/1) silt loam; brittle; common coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common coarse prominent dark red (2.5YR 3/6) and brown (7.5YR 4/4) weakly cemented nodules of iron-manganese throughout; few fine black (10YR 2/1) concretions of iron-manganese throughout; about 12 percent sand; brittle; very strongly acid; gradual smooth boundary.

2Btx2—44 to 50 inches; brown (10YR 5/3) loam; weak very coarse prismatic structure parting to weak coarse subangular blocky; very firm; few vertical streaks and cracks between polygons filled with light gray (10YR 7/1) silt; brittle; common coarse faint dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese and common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; few black (10YR 2/1) concretions of iron-manganese throughout; about 30 percent sand; brittle; very strongly acid; gradual smooth boundary.

2C—50 to 60 inches; brown (10YR 5/3) loam; massive; friable; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 30 to 55 inches
Depth to carbonates: More than 80 inches
Depth to the base of the argillic horizon: More than 48 inches
Depth to bedrock: More than 80 inches
Depth to the fragipan: 25 to 40 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

E or BE horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid or strongly acid

Bt, B/E, Bt/E, or B´t horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid or strongly acid

Btx, Bx, 2Bx, or 2Btx horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 8
Texture—silt loam, silty clay loam, loam, or clay loam
Content of rock fragments—0 to 4 percent
Reaction—very strongly acid or strongly acid

2C, 2Bt, or 2Btb horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 6
Texture—loam, silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to moderately acid

14B—Ava silt loam, 2 to 5 percent slopes

Setting

Landform: Till plains, ground moraines
Position on the landform: Shoulders, summits

Map Unit Composition

Ava and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that are nearly level

Dissimilar soils:
- The somewhat poorly drained Stoy soils in nearly level areas
- The poorly drained Wynoose soils on talfs; in landscape positions above those of the Ava soil

Properties and Qualities of the Ava Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 25 to 40 inches to a fragipan
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest perched seasonal high water table: 1.5 feet, February through April
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

14C2—Ava silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Till plains, ground moraines
Position on the landform: Backslopes, shoulders

Map Unit Composition

Ava and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are severely eroded
- Soils that have more sand in the subsoil
- Soils that have a dark surface layer

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils at the head of drainageways
- The poorly drained Wynoose soils on talfs; in landscape positions above those of the Ava soil

Properties and Qualities of the Ava Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 25 to 40 inches to a fragipan
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of highest perched seasonal high water table: 1.5 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Blair Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Blair silt loam, 5 to 10 percent slopes, eroded, at an elevation of 627 feet above mean sea level; Edgar County, Illinois; 1,875 feet east and 1,150 feet north of the southwest corner of sec. 5, T. 12 N., R. 11 W.; USGS Paris South, Illinois, topographic quadrangle; lat. 39 degrees 30 minutes 32.4 seconds N. and long. 87 degrees 39 minutes 35.1 seconds W.; UTM Zone 16S, 0443282 easting 4373470 northing; NAD 83.

Ap—0 to 5 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure parting to moderate fine granular; friable; many very fine roots; common fine rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral; abrupt smooth boundary.

Bt—5 to 10 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine and medium angular blocky structure; firm; common very fine roots throughout; many faint brown (10YR 5/3) clay films and many faint pale brown (10YR 6/3) clay depletions on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron and common medium prominent light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine and medium rounded black

(10YR 2/1) weakly cemented nodules and moderately cemented concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

Btg1—10 to 19 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium and coarse prismatic structure parting to moderate medium angular blocky; very firm; common very fine roots; common distinct brown (10YR 5/3) clay films and few faint pale brown (10YR 6/3) clay depletions on faces of peds; many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium rounded black (10YR 2/1) weakly cemented nodules and moderately cemented concretions of iron-manganese throughout; very strongly acid; gradual wavy boundary.

Btg2—19 to 33 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium and coarse prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; common distinct brown (10YR 5/3) and common faint light gray (10YR 6/1) clay films and few faint pale brown (10YR 6/3) clay depletions on faces of peds; many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine rounded black (10YR 2/1) weakly cemented nodules and moderately cemented concretions of iron-manganese throughout; strongly acid; gradual wavy boundary.

2Btg3—33 to 49 inches; light gray (10YR 6/1) silty clay loam; moderate coarse prismatic structure; firm; few very fine roots; common faint gray (10YR 5/1) and few faint grayish brown (10YR 5/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; slightly acid; gradual wavy boundary.

3Btg4—49 to 60 inches; gray (10YR 5/1) clay loam; weak coarse prismatic structure; friable; few faint dark gray (10YR 4/1) clay films on faces of peds; many medium and coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; about 1 percent fine gravel; neutral.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: Less than 20 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 40 to 68 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—0 to 5 percent
Reaction—strongly acid to neutral

Bt or Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam, silt loam, loam, or clay loam
Content of rock fragments—0 to 10 percent
Reaction—very strongly acid to moderately acid

2Bt or 2Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6

Chroma—1 to 4
Texture—loam, silt loam, or clay loam
Content of rock fragments—0 to 10 percent
Reaction—strongly acid to slightly alkaline

2BCtg or 2BCg horizon (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—loam, silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 10 percent
Reaction—moderately acid to slightly alkaline

2Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or loam
Content of rock fragments—0 to 10 percent
Reaction—moderately acid to slightly alkaline

927C2—Blair-Atlas silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Till plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Blair and similar soils: 50 percent
Atlas and similar soils: 30 percent
Dissimilar soils: 20 percent

Soils of Minor Extent

Similar soils:
- Soils that are severely eroded
- Soils that have a grayer subsoil
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The well drained Hickory soils on steep slopes
- The somewhat poorly drained Shoals soils on flood plains
- The poorly drained Wynoose soils on talfs; in landscape positions above those of the Blair soil

Properties and Qualities of the Blair Soil

Parent material: Loess over mixed loess and drift and/or paleosol formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate

Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Blair—3e; Atlas—3e
Prime farmland category: Not prime farmland
Hydric soil status: Blair—not hydric; Atlas—not hydric

927C3—Blair-Atlas silty clay loams, 5 to 10 percent slopes, severely eroded

Setting

Landform: Till plains
Position on the landform: Shoulders, backslopes

Map Unit Composition

Blair and similar soils: 50 percent
Atlas and similar soils: 30 percent
Dissimilar soils: 20 percent

Soils of Minor Extent

Similar soils:
- Soils that are less gray in the upper part of the subsoil
- Soils that are less eroded

- Soils that have more sodium in the subsoil
- Soils that are strongly sloping

Dissimilar soils:
- The well drained Hickory soils on steep slopes
- The somewhat poorly drained Shoals soils on flood plains
- The poorly drained Wynoose soils on talfs; in landscape positions above those of the Blair soil

Properties and Qualities of the Blair Soil

Parent material: Loess over mixed loess and drift and/or paleosol formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 0.5 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Blair—3e; Atlas—3e
Prime farmland category: Not prime farmland
Hydric soil status: Blair—not hydric; Atlas—not hydric

Bluford Series

Taxonomic classification: Fine, smectitic, mesic Aeric Fragic Epiaqualfs

Typical Pedon

Bluford silt loam, 0 to 2 percent slopes, at an elevation of 549 feet above mean sea level; Crawford County, Illinois; 1,585 feet south and 925 feet west of the northeast corner of sec. 16, T. 8 N., R. 13 W.; USGS Annapolis, Illinois, topographic quadrangle; lat. 39 degrees 08 minutes 22.7 seconds N. and long. 87 degrees 51 minutes 27.9 seconds W.; UTM Zone 16S, 0425872 easting 4332623 northing; NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; very friable; few very fine roots; few fine rounded masses of iron-manganese oxides throughout; neutral; abrupt smooth boundary.

E1—7 to 15 inches; light brownish gray (10YR 6/2) silt loam, white (2.5Y 8/1) dry; moderate medium platy structure; very friable; few very fine roots; many medium distinct yellowish brown (10YR 5/4) and few medium faint brown (10YR 5/3) masses of iron-manganese oxides in the matrix; common fine rounded masses of oxidized iron and manganese throughout; very strongly acid; clear smooth boundary.

E2—15 to 20 inches; pale brown (10YR 6/3) silt loam, pale yellow (2.5Y 8/2) dry; moderate medium platy structure parting to moderate very fine subangular blocky; very friable; few very fine roots; common prominent white (10YR 8/1) (dry) silt coatings on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; very strongly acid; clear smooth boundary.

Btg—20 to 35 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; few very fine roots; common faint grayish brown (10YR 5/2) clay films on faces of peds; common medium faint gray (10YR 5/1) iron depletions in the matrix; common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese and many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common prominent strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine rounded masses of oxidized iron and manganese throughout; very strongly acid; clear smooth boundary.

2Btgx—35 to 42 inches; grayish brown (10YR 5/2) silty clay loam; moderate coarse prismatic structure; firm; brittle; few faint grayish brown (10YR 5/2) clay films and common prominent white (10YR 8/1) (dry) silt coatings on faces of peds; brittle; few fine faint gray (10YR 6/1) iron depletions and common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; common prominent strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine rounded masses of oxidized iron and manganese throughout; very strongly acid; gradual smooth boundary.

2Btg—42 to 60 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure; very firm; few faint dark gray (10YR 4/1) clay films in root channels; common medium distinct yellowish brown (10YR 5/4) and common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine rounded masses of oxidized iron and manganese throughout; about 1 percent gravel; very strongly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 30 to 55 inches
Depth to carbonates: More than 80 inches
Depth to the base of the argillic horizon: More than 40 inches

Depth to bedrock: More than 80 inches
Depth to fragic layer: 30 to 55 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 3
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid or strongly acid; ranges to neutral in limed areas

E, EB, or BE horizon (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid or strongly acid; ranges to slightly acid in limed areas

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 3
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

2Btgx or 2Bgx horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 or 2; ranges to 8 in multicolored horizons
Texture—silt loam, loam, silty clay loam, or clay loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to moderately acid
Brittleness—30 to 60 percent by volume that is brittle

2Btg, 2BCtg, or 2BCg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2; ranges to 6 in multicolored horizons
Texture—silty clay loam, silt loam, or loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to moderately acid

13A—Bluford silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains, ground moraines
Position on the landform: Summits

Map Unit Composition

Bluford and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that are less brittle in the substratum
- Soils that are eroded
- Soils that have less gray in the subsoil

Dissimilar soils:
- The poorly drained Cisne soils on flats; in landscape positions above those of the Bluford soil

Properties and Qualities of the Bluford Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Depth and months of highest perched seasonal high water table: 0.5 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

13B2—Bluford silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines, till plains
Position on the landform: Shoulders

Map Unit Composition

Bluford and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are less brittle in the subsoil
- Soils that are uneroded

Dissimilar soils:
- The poorly drained Cisne soils on flats; in landscape positions above those of the Bluford soil

Properties and Qualities of the Bluford Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Very high
Depth and months of highest perched seasonal high water table: 0.5 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Brenton Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Brenton silt loam, 0 to 2 percent slopes, at an elevation of 768 feet above mean sea level; McLean County, Illinois; 525 feet east and 1,620 feet south of the northwest corner of sec. 15, T. 22 N., R. 6 E.; USGS Bellflower, Illinois, topographic quadrangle; lat. 40 degrees 21 minutes 53 seconds N. and long. 88 degrees 30 minutes 55 seconds W.; UTM Zone 16T, 0371344 easting 4469339 northing; NAD 83.

Ap1—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine roots throughout; moderately acid; abrupt smooth boundary.

Ap2—8 to 14 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; common very fine roots throughout; few very fine tubular pores; moderately acid; abrupt smooth boundary.

Bt1—14 to 17 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots along faces of peds; few very fine tubular pores; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine prominent concretions and stains of iron-manganese throughout; moderately acid; clear smooth boundary.

Bt2—17 to 22 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; friable; common very fine and few fine roots along faces of peds; few very fine and fine tubular pores; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine

prominent concretions and stains of iron-manganese throughout; moderately acid; clear smooth boundary.

Bt3—22 to 28 inches; olive brown (2.5Y 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; friable; common very fine and few fine roots along faces of peds; few very fine and fine tubular pores; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) iron depletions and faint yellowish brown (10YR 5/4) masses of oxidized iron and manganese in the matrix; few fine prominent concretions and stains of iron-manganese throughout; moderately acid; clear smooth boundary.

Bt4—28 to 33 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium prismatic structure parting to strong medium subangular blocky; friable; common very fine and few fine roots along faces of peds; few very fine tubular pores; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine and medium distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; few fine prominent concretions and stains of iron-manganese throughout; moderately acid; clear smooth boundary.

2Bt5—33 to 45 inches; olive brown (2.5Y 4/4), stratified loam and fine sandy loam; moderate medium and coarse subangular blocky structure; friable; few very fine roots along faces of peds; few very fine tubular pores; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films on surfaces along root channels and common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; few fine distinct grayish brown (2.5Y 5/2) iron depletions and common fine and medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent concretions and stains of iron-manganese throughout; slightly acid; clear smooth boundary.

2BCt—45 to 54 inches; light olive brown (2.5Y 5/6) and light brownish gray (2.5Y 6/2) loam; weak medium subangular blocky structure; friable; few very fine roots along faces of peds; few very fine tubular pores; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films on surfaces along root channels and pores; common fine prominent concretions and stains of iron-manganese throughout; neutral; clear smooth boundary.

2Cg1—54 to 69 inches; gray (2.5Y 6/1) silt loam; weak thick and very thick platy rock structure; very friable; few very fine roots throughout; many very fine horizontal tubular pores between plates and few very fine vertical tubular pores through plates; many very dark grayish brown (2.5Y 3/2) organo-clay films on surfaces along root channels and pores; common fine and medium prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; common very fine and fine prominent black (10YR 2/1) concretions and stains of iron-manganese throughout; slightly effervescent; neutral; clear smooth boundary.

2Cg2—69 to 80 inches; gray (2.5Y 6/1) silt; massive; very friable; few very fine roots throughout; few very fine tubular pores; common fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess: 24 to 40 inches
Depth to carbonates: More than 40 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3

Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

2Bt, 2Btg, or 2BCt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—stratified loam, fine sandy loam, sandy loam, or silt loam
Content of rock fragments—0 to 5 percent
Reaction—moderately acid to slightly alkaline

2Cg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silt loam or silt; typically with strata of sandy loam and loam
Content of rock fragments—0 to 15 percent
Reaction—neutral to moderately alkaline

149A—Brenton silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces
Position on the landform: Summits, footslopes

Map Unit Composition

Brenton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thin surface layer
- Soils that are subject to rare flooding
- Soils that have loamy sand and sand in the underlying material
- Soils that have a light-colored subsurface layer
- Soils that have less gray in the subsoil
- Soils that are eroded

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains
- The poorly drained Drummer soils in swales

Properties and Qualities of the Brenton Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Brooklyn Series

Taxonomic classification: Fine, smectitic, mesic Mollic Albaqualfs

Typical Pedon

Brooklyn silt loam, 0 to 2 percent slopes, at an elevation of 679 feet above mean sea level; Douglas County, Illinois; 200 feet east and 1,430 feet south of the northwest corner of sec. 8, T. 16 N., R. 14 W.; USGS Newman, Illinois, topographic quadrangle; lat. 39 degrees 51 minutes 40.1 seconds N. and long. 87 degrees 58 minutes 28.4 seconds W.; UTM Zone 16S, 0416644 easting 4412800 northing; NAD 83.

Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; common medium rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; neutral; abrupt smooth boundary.

Eg—9 to 14 inches; gray (2.5Y 6/1) silt loam; weak medium platy structure parting to moderate fine granular; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; neutral; abrupt smooth boundary.

Btg1—14 to 20 inches; light brownish gray (2.5Y 6/2) silty clay; moderate fine prismatic structure parting to moderate fine angular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few medium rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; neutral; clear smooth boundary.

Btg2—20 to 31 inches; gray (2.5Y 6/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common distinct dark gray (2.5Y 4/1) clay films on faces of peds; many prominent black (N 2.5/) organo-clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few medium rounded black

(7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; moderately acid; gradual smooth boundary.

Btg3—31 to 40 inches; gray (2.5Y 6/1) silty clay loam; moderate coarse prismatic structure parting to moderate coarse angular blocky; firm; common distinct dark gray (2.5Y 4/1) clay films on faces of peds; few prominent black (N 2.5/) organo-clay films on surfaces along pores and root channels; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; neutral; abrupt smooth boundary.

2Btg4—40 to 46 inches; gray (2.5Y 5/1) clay loam; weak coarse prismatic structure; firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; few distinct black (2.5Y 2.5/1) organo-clay films on surfaces along pores and root channels; many medium prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; common medium rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; 5 percent gravel; neutral; abrupt smooth boundary.

2Bt—46 to 52 inches; 40 percent strong brown (7.5YR 4/6), 40 percent dark brown (10YR 3/3), and 20 percent gray (2.5Y 5/1) gravelly clay loam; weak coarse subangular blocky structure; firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; few distinct black (2.5Y 2.5/1) organo-clay films on surfaces along pores and root channels; common medium rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; 20 percent gravel; neutral; abrupt smooth boundary.

2BCt—52 to 62 inches; 50 percent yellowish brown (10YR 5/6), 30 percent light yellowish brown (2.5Y 6/3), and 20 percent gray (2.5Y 6/1) clay loam with thin strata of silt loam; massive; firm; very few distinct black (2.5Y 2.5/1) and very few distinct dark brown (7.5YR 3/2) organo-clay films on surfaces along pores and root channels; many medium rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; 5 percent gravel; neutral; gradual smooth boundary.

2C—62 to 73 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent gray (2.5Y 5/1) loam with thin strata of sandy loam; massive; firm; many medium irregular black (7.5YR 2.5/1) masses of oxidized iron and manganese throughout; 7 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

3Cd—73 to 80 inches; light olive brown (2.5Y 5/4) loam; few medium prominent red (2.5YR 4/8) mottles; massive; very firm; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron and few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; 10 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic layer: 7 to 9 inches
Thickness of the loess: 36 to 55 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 40 to 72 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

E or Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Btg or 2Bt horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay or silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

2Btg or BCt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—3 to 6
Chroma—1 to 6
Texture—stratified clay loam, sandy clay loam, sandy loam, or silt loam
Content of rock fragments—2 to 20 percent
Reaction—strongly acid to slightly alkaline

2Cg or 2C horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 8
Texture—stratified clay loam, loam, sandy loam, or sandy clay loam
Content of rock fragments—2 to 15 percent
Reaction—neutral or slightly alkaline

3Cd or 3C horizon (where present):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam
Content of rock fragments—2 to 15 percent
Reaction—slightly alkaline or moderately alkaline

136A—Brooklyn silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces
Position on the landform: Toeslopes

Map Unit Composition

Brooklyn and similar soils: 93 percent
Dissimilar soils: 7 percent

Soils of Minor Extent

Similar soils:
- Soils that have a light-colored surface layer
- Soils that have less clay in the subsoil

- Soils that have a thick dark surface layer
- Soils that have more clay in the surface layer

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains
- The somewhat poorly drained Whitaker soils on terraces
- The somewhat poorly drained Millbrook soils on slight rises; in landscape positions above those of the Brooklyn soil

Properties and Qualities of the Brooklyn Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow to moderate
Depth to restrictive feature: 7 to 21 inches to abrupt textural change
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest perched seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Brouillett Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Cumulic Hapludolls

Typical Pedon

Brouillett silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 597 feet above mean sea level; Edgar County, Illinois; about 2.5 miles southeast of Chrisman; 660 feet west and 330 feet south of the northeast corner of sec. 4, T. 15 N., R. 11 W.; USGS Chrisman, Illinois, topographic quadrangle; lat. 39 degrees 47 minutes 31.9 seconds N. and long. 87 degrees 38 minutes 14.3 seconds W.; UTM Zone 16S, 0445432 easting 4404891 northing; NAD 83.

A1—0 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine and medium granular structure; friable; many very fine roots; slightly alkaline; gradual wavy boundary.
A2—11 to 19 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate very fine and fine subangular blocky structure; friable; common very fine roots; slightly alkaline; gradual wavy boundary.

A3—19 to 26 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine subangular blocky structure; friable; common very fine roots; slightly alkaline; clear wavy boundary.
Bg1—26 to 34 inches; dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; friable; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; slightly alkaline; gradual wavy boundary.
Bg2—34 to 42 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many medium and coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; about 2 percent fine gravel; slightly alkaline; gradual wavy boundary.
Cg—42 to 60 inches; light brownish gray (2.5Y 6/2), stratified silt loam and loam; massive; friable; few very fine roots; many medium and coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; about 2 percent fine gravel; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to carbonates: More than 40 inches
Depth to the base of the cambic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—0 to 5 percent
Reaction—slightly acid to slightly alkaline

Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 3
Texture—silt loam or loam; stratified in some pedons
Content of rock fragments—0 to 5 percent
Reaction—slightly acid to slightly alkaline

Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 3
Texture—stratified silt loam and loam with strata of sandy loam to clay loam
Content of rock fragments—0 to 15 percent
Reaction—slightly acid to moderately alkaline

3450A—Brouillett silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Brouillett and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thin surface layer
- Soils that have more silt in the subsoil
- Soils that are subject to less frequent flooding
- Soils that have a surface layer of light-colored silty overwash
- Soils that have more sand in the subsoil

Dissimilar soils:
- The well drained Senachwine soils in moderately steep areas; in landscape positions above those of the Brouillett soil
- The well drained Camden soils in landscape positions above those of the Brouillett soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Brouillett Soil

Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Low
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Camden Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Camden silt loam, 2 to 5 percent slopes, at an elevation of 720 feet above mean sea level; Champaign County, Illinois; about 6 miles northeast of Penfield; 30 feet north and 100 feet west of the southeast corner of sec. 6, T. 22 N., R. 14 W.; USGS Rankin, Illinois, topographic quadrangle; lat. 40 degrees 23 minutes 06.1 seconds N. and long. 87 degrees 58 minutes 16.1 seconds W.; UTM Zone 16T, 0417570 easting 4470947 northing; NAD 83.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and very fine granular structure; friable; neutral; abrupt smooth boundary.

E—9 to 14 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate thin platy structure; friable; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; neutral; abrupt smooth boundary.

Bt1—14 to 18 inches; yellowish brown (10YR 5/4) silt loam; weak very fine subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; neutral; clear smooth boundary.

Bt2—18 to 22 inches; yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; slightly acid; clear smooth boundary.

Bt3—22 to 28 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; moderately acid; clear smooth boundary.

Bt4—28 to 35 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; common fine and medium irregular black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; 3 percent, by volume, chert pebbles; moderately acid; clear smooth boundary.

2Bt5—35 to 52 inches; yellowish brown (10YR 5/6) loam; moderate coarse prismatic structure parting to weak medium subangular blocky; friable; common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; common fine and medium irregular black (7.5YR 2.5/1) weakly cemented nodules of iron-manganese throughout; 5 percent, by volume, chert and quartz pebbles; moderately acid; clear smooth boundary.

2Bt6—52 to 62 inches; brown (10YR 4/3) and yellowish brown (10YR 5/4) sandy loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; few faint brown (10YR 4/3) clay bridges between sand grains; few fine faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; few fine rounded black (7.5YR 2.5/1) weakly cemented nodules of iron-manganese throughout; 5 percent, by volume, chert and quartz pebbles; moderately acid; clear smooth boundary.

2C—62 to 80 inches; yellowish brown (10YR 5/4 and 5/6), stratified sandy loam, loam, and sandy clay loam; massive; very friable; moderately acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 24 to 40 inches

Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 30 to 65 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—slightly acid or neutral

E or BE horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

2Bt, 2BCt, or 2BC horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—loam, clay loam, silt loam, silty clay loam, or sandy clay loam
Content of rock fragments—0 to 10 percent by volume
Reaction—strongly acid to neutral

2C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified sandy loam, loam, sandy clay loam, or silt loam
Content of rock fragments—0 to 10 percent by volume
Reaction—strongly acid to neutral

134A—Camden silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces
Position on the landform: Summits

Map Unit Composition

Camden and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand or gravel in the substratum
- Soils that have a dark surface layer
- Soils that have more clay in the subsoil
- Soils that have more sand in the subsoil

Dissimilar soils:
- The somewhat poorly drained Brouillett and poorly drained Petrolia soils on flood plains
- The somewhat poorly drained Whitaker soils on terraces
- The somewhat poorly drained Starks soils in swales
- The poorly drained Drummer soils in swales

Properties and Qualities of the Camden Soil

Parent material: Loess over loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

134B—Camden silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces, outwash plains
Position on the landform: Summits, backslopes

Map Unit Composition

Camden and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand or gravel in the substratum
- Soils that are eroded
- Soils that have a dark surface layer
- Soils that have more clay in the subsoil
- Soils that have more sand in the subsoil

Dissimilar soils:
- The somewhat poorly drained Brouillett and poorly drained Petrolia soils on flood plains
- The somewhat poorly drained Whitaker soils on terraces
- The somewhat poorly drained Starks soils in swales
- The poorly drained Drummer soils in swales

Properties and Qualities of the Camden Soil

Parent material: Loess over loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

134C2—Camden silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Stream terraces, outwash plains
Position on the landform: Shoulders, backslopes

Map Unit Composition

Camden and similar soils: 97 percent
Dissimilar soils: 3 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil and substratum
- Soils that have more sand or gravel in the substratum
- Soils that are uneroded
- Soils that are severely eroded
- Soils that have more sand in the subsoil

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains
- The somewhat poorly drained Whitaker soils on terraces
- The somewhat poorly drained Starks soils in swales
- The poorly drained Drummer soils in swales

Properties and Qualities of the Camden Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Carmi Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Pachic Hapludolls

Typical Pedon

Carmi sandy loam, 0 to 2 percent slopes, rarely flooded, at an elevation of 456 feet above mean sea level; Clark County, Illinois; 1,326 feet south and 81 feet east of the northwest corner of sec. 33, T. 9 N., R. 11 W.; USGS West Union, Illinois, topographic quadrangle; lat. 39 degrees 10 minutes 59.4 seconds N. and long. 87 degrees 38 minutes 49.9 seconds W.; UTM Zone 16S, 0444103 easting 4337303 northing; NAD 83.

Ap—0 to 10 inches; very dark brown (10YR 2/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common very fine roots throughout; about 1 percent rounded rock fragments; slightly acid; abrupt smooth boundary.

A—10 to 18 inches; very dark brown (10YR 2/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common very fine roots throughout; about 2 percent rounded rock fragments; strongly acid; gradual smooth boundary.

Bt1—18 to 26 inches; dark brown (10YR 3/3) sandy loam, dark grayish brown (10YR 4/2) dry; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay bridging between sand grains; about 2 percent rounded rock fragments; moderately acid; clear smooth boundary.

2Bt2—26 to 37 inches; dark brown (10YR 3/3) gravelly coarse sandy loam, brown (10YR 4/3) dry; weak medium subangular blocky structure; friable; common very fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and many distinct very dark grayish brown (10YR 3/2)

organo-clay bridges between sand grains; about 35 percent rounded rock fragments; moderately acid; clear smooth boundary.

2Bt3—37 to 44 inches; dark brown (7.5YR 3/3) sandy loam, dark brown (7.5YR 3/2) dry; moderate medium subangular blocky structure; friable; few very fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and many distinct very dark grayish brown (10YR 3/2) organo-clay bridges between sand grains; about 12 percent rounded rock fragments; moderately acid; clear smooth boundary.

2Bt4—44 to 57 inches; brown (7.5YR 4/3), stratified sandy loam and coarse sandy loam; weak medium subangular blocky structure; very friable; few very fine roots throughout; common distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds and many distinct dark brown (7.5YR 3/2) organo-clay bridges between sand grains; about 10 percent rounded rock fragments; moderately acid; clear smooth boundary.

2Bt5—57 to 68 inches; brown (7.5YR 4/3) loamy coarse sand; single grain; loose; common faint brown (7.5YR 4/3) clay bridging between sand grains; about 10 percent rounded rock fragments; moderately acid; clear smooth boundary.

2BCt—68 to 82 inches; 70 percent brown (7.5YR 4/3) and 30 percent brown (10YR 5/3), stratified loamy sand, loamy coarse sand, and coarse sand; single grain; loose; common faint brown (7.5YR 4/3) clay bridging between sand grains; about 10 percent rounded rock fragments; moderately acid; clear smooth boundary.

2C—82 to 93 inches; brown (10YR 5/3), stratified coarse sand, gravelly coarse sand, and very gravelly coarse sand, light gray (10YR 7/2) dry; single grain; loose; 10 to 30 percent rock fragments; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 20 to 34 inches
Depth to carbonates: More than 40 inches
Depth to the base of the cambic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—sandy loam
Content of rock fragments—less than 15 percent
Reaction—strongly acid to neutral

Bt or 2Bt horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 6
Texture—loam, sandy loam, coarse sandy loam, or sandy clay loam
Content of rock fragments—0 to 35 percent
Reaction—very strongly acid to moderately acid

2BCt, 2BC, BC, or BCt horizon:
Hue—5YR, 7.5YR, or 10YR
Value—3 to 5
Chroma—2 to 6
Texture—sandy loam, coarse sandy loam, loamy sand, loamy coarse sand, sand, or coarse sand; typically stratified
Content of rock fragments—less than 50 percent
Reaction—strongly acid to neutral

2C or C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 4
Texture—sand or coarse sand
Content of rock fragments—less than 50 percent
Reaction—slightly alkaline or moderately alkaline

7286A—Carmi sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Summits

Map Unit Composition

Carmi and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay and silt in the surface layer
- Soils that have a thin surface layer
- Soils that are subject to less frequent flooding
- Soils that do not have gravel in the subsoil

Dissimilar soils:
- The somewhat poorly drained Tice soils on flood plains; in landscape positions below those of the Carmi soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Carmi Soil

Parent material: Loamy alluvium over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Channahon Series

Taxonomic classification: Loamy, mixed, superactive, mesic Lithic Argiudolls

Typical Pedon

Channahon silt loam, 0 to 2 percent slopes, at an elevation of 462 feet above mean sea level; Clark County, Illinois; 6 feet south and 58 feet east of the northwest corner of sec. 33, T. 9 N., R. 11 W.; USGS West Union, Illinois, topographic quadrangle; lat. 39 degrees 11 minutes 12.2 seconds N. and long. 87 degrees 38 minutes 49.9 seconds W.; UTM Zone 16S, 0444105 easting 4337697 northing; NAD 83.

Ap—0 to 7 inches; very dark brown (10YR 2/2) silt loam; moderate very fine and fine granular structure; friable; slightly acid; abrupt smooth boundary.

AB—7 to 10 inches; dark brown (10YR 3/3) silt loam; moderate fine and medium granular structure; friable; slightly acid; clear smooth boundary.

Bt—10 to 18 inches; dark yellowish brown (10YR 3/4) silty clay loam; moderate and strong very fine and fine subangular blocky structure; friable; few faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; slightly acid; abrupt smooth boundary.

2R—18 inches; light gray (10YR 7/2) and brownish yellow (10YR 6/6) limestone bedrock.

Range in Characteristics

Thickness of the mollic epipedon: 4 to 20 inches
Thickness of the loess: Less than 10 inches
Depth to carbonates: More than 10 inches
Depth to the base of the argillic horizon: 10 to 20 inches
Depth to bedrock: 10 to 20 inches

Ap, A, or AB horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—0 to 20 percent
Reaction—slightly acid to slightly alkaline

Bt, BC, BCt, or C horizon:
Hue—10YR or 7.5YR
Value—3 to 5
Chroma—3 or 4
Texture—silt loam, silty clay loam, loam, or clay loam
Content of rock fragments—0 to 20 percent
Reaction—slightly acid to moderately alkaline

315A—Channahon silt loam, 0 to 2 percent slopes

Setting

Landform: Terraces

Map Unit Composition

Channahon and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils on short steep slopes; in landscape positions below those of the Channahon soil
- Soils that have a thin surface layer
- Soils that are moderately deep to bedrock
- Soils that are gently sloping

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains; in landscape positions below those of the Channahon soil
- The moderately well drained Colp soils in landscape positions similar to those of the Channahon soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Channahon Soil

Parent material: Loamy alluvium over limestone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Impermeable
Permeability below a depth of 60 inches: Impermeable to slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 3.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Chauncey Series

Taxonomic classification: Fine, smectitic, mesic Typic Argialbolls

Typical Pedon

Chauncey silt loam, 0 to 2 percent slopes, at an elevation of 594 feet above mean sea level; Clark County, Illinois; 165 feet north and 250 feet west of the southeast corner of sec. 15, T. 9 N., R. 13 W.; USGS Annapolis, Illinois, topographic quadrangle; lat. 39 degrees 13 minutes 18.2 seconds N. and long. 87 degrees 49 minutes 21.8 seconds W.; UTM Zone 16S, 0428981 easting 4341704 northing; NAD 83.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; friable; slightly acid; abrupt smooth boundary.
A—8 to 12 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; friable; moderately acid; clear smooth boundary.

Eg1—12 to 18 inches; grayish brown (10YR 5/2) silt loam with areas of dark grayish brown (10YR 4/2); weak medium platy structure; friable; common fine distinct yellowish brown (10YR 5/4) and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; gradual smooth boundary.

Eg2—18 to 28 inches; light gray (10YR 7/2) and light brownish gray (10YR 6/2) silt loam; weak medium platy structure; friable; few iron stains; common fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; very strongly acid; abrupt smooth boundary.

Btg—28 to 42 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few light gray (10YR 7/2) (dry) silt coatings in the upper few inches; common faint dark gray (10YR 4/1) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/4) and common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

BCtg—42 to 52 inches; grayish brown (10YR 5/2) silty clay loam; weak medium subangular blocky structure; firm; few faint gray (10YR 5/1) clay films on faces of peds; common coarse distinct yellowish brown (10YR 5/4) and common coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; moderately acid; gradual smooth boundary.

2Cg—52 to 60 inches; light brownish gray (10YR 6/2) silt loam with increase in content of sand; massive; friable; common medium and coarse grayish brown (10YR 5/2) iron depletions; common medium and coarse distinct yellowish brown (10YR 5/4) and common medium and coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 15 inches
Thickness of the loess: More than 50 inches
Depth to carbonates: More than 70 inches
Depth to the base of the argillic horizon: 40 to 70 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

Eg, E, or EBg horizon (where present):
Hue—10YR
Value—4 to 7
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2

Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

BCtg, BCg, 2Cg, or 2BCg horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, silt loam, loam, or clay loam
Content of rock fragments—none
Reaction—moderately acid to neutral

287A—Chauncey silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions on till plains

Map Unit Composition

Chauncey and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thin surface layer

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils in moderately steep areas

Properties and Qualities of the Chauncey Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 5.0 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Cisne Series

Taxonomic classification: Fine, smectitic, mesic Mollic Albaqualfs

Typical Pedon

Cisne silt loam, 0 to 2 percent slopes, at an elevation of 556 feet above mean sea level; Jasper County, Illinois; 1,960 feet west and 420 feet south of the northeast corner of sec. 3, T. 6 N., R. 9 E.; USGS Newton, Illinois, topographic quadrangle; lat. 38 degrees 59 minutes 36.6 seconds N. and long. 88 degrees 11 minutes 42.9 seconds W.; UTM Zone 16S, 0396490 easting 4316734 northing; NAD 83.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very dark gray (10YR 3/1) organic coatings on faces of peds; about 1 percent fine and medium weakly cemented nodules of iron-manganese oxide throughout; moderately acid; abrupt smooth boundary.

Eg1—8 to 13 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate medium platy structure; friable; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; about 2 percent fine and medium weakly cemented nodules of iron-manganese throughout; strongly acid; clear smooth boundary.

Eg2—13 to 17 inches; light gray (10YR 7/2) and light brownish gray (10YR 6/2) silt loam, very pale brown (10YR 8/2) dry; moderate medium platy structure; friable; about 2 percent fine and medium weakly cemented nodules of iron-manganese throughout; strongly acid; abrupt smooth boundary.

Btg/E—17 to 19 inches; gray (10YR 6/1) silty clay loam (Btg); moderate fine angular blocky structure; friable; common prominent light gray (10YR 7/1) (dry) silt coatings on faces of peds (E); common medium prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; about 3 percent fine and medium weakly cemented nodules of iron-manganese oxide throughout; strongly acid; clear smooth boundary.

Btg1—19 to 28 inches; grayish brown (10YR 5/2) silty clay loam; strong fine prismatic structure parting to strong fine angular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; common medium prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

Btg2—28 to 37 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium angular blocky structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; strongly acid; clear smooth boundary.

2Btg3—37 to 43 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse angular blocky structure; firm; few faint gray (10YR 5/1) clay films on faces of peds; common medium and coarse distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; about 15 percent sand; few pebbles; strongly acid; gradual smooth boundary.

2BCg—43 to 60 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse angular blocky structure; firm; common coarse distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; about 15 percent sand in the upper part; the content of sand increases with increasing depth; few pebbles; moderately acid; gradual smooth boundary.

2Cg—60 to 80 inches; dark grayish brown (10YR 4/2) silt loam; massive; firm; many coarse prominent gray (N 6/) and light gray (N 7/) iron depletions in the matrix; few fine and medium concretions of iron-manganese throughout; about 20 percent sand; about 2 percent pebbles; slightly acid.

Range in Characteristics

Thickness of the mollic layer: 7 to 9 inches
Thickness of the loess: 30 to 55 inches
Depth to carbonates: More than 80 inches
Depth to the base of the argillic horizon: 40 to 65 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam or silt
Content of rock fragments—none
Reaction—very strongly acid to moderately acid; ranges to neutral in limed areas

Btg/E, BEg, or EBg horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

2Btg, 2BCtg, or 2BCg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, loam, or silt loam
Content of rock fragments—0 to 10 percent
Reaction—strongly acid to slightly acid

2Cg, 3Ab, or 3Btb horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, loam, or silt loam
Content of rock fragments—2 to 15 percent
Reaction—moderately acid to neutral

2A—Cisne silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains, ground moraines
Position on the landform: Summits

Map Unit Composition

Cisne and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a light-colored surface layer
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils in the steeper areas

Properties and Qualities of the Cisne Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 16 to 21 inches to abrupt textural change
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

991A—Cisne-Huey silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines, till plains
Position on the landform: Summits

Map Unit Composition

Cisne and similar soils: 50 percent
Huey and similar soils: 40 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Newberry and Wynoose soils in landscape positions similar to those of the Cisne and Huey soils

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils in the steeper areas

Properties and Qualities of the Cisne Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 16 to 21 inches to abrupt textural change
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Huey Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow to moderately slow
Depth to restrictive feature: 8 to 16 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Cisne—3w; Huey—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Cisne—hydric; Huey—hydric

Colp Series

Taxonomic classification: Fine, smectitic, mesic Aquertic Chromic Hapludalfs
Taxadjunct features: The Colp soils in this survey area are slightly drier than is defined as the range for the series and have less expansive clay. These differences, however, do not significantly affect the use or management of the soils. These soils are classified as fine, smectitic, mesic Oxyaquic Hapludalfs.

Typical Pedon

Colp silt loam, 2 to 5 percent slopes, at an elevation of 490 feet above mean sea level; Clark County, Illinois; 1,255 feet west and 445 feet south of the northeast corner of sec. 35, T. 11 N., R. 11 W.; USGS Hutton, Illinois, topographic quadrangle; lat. 39 degrees 21 minutes 35.1 seconds N. and long. 87 degrees 35 minutes 44.3 seconds W.; UTM Zone 16S, 0448660 easting 4356869 northing; NAD 83.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; moderate medium granular structure; friable; many fine roots; few fine oxidized iron-manganese accumulations throughout; slightly acid; abrupt smooth boundary.

E—8 to 11 inches; brown (10YR 5/3) silt loam; moderate thin platy structure parting to moderate fine granular; friable; common fine roots; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

Bt1—11 to 19 inches; yellowish brown (10YR 5/4) silty clay loam; strong medium subangular blocky structure; firm; common fine roots; many distinct pale brown (10YR 6/3) (dry) silt coatings on faces of peds; common distinct brown (10YR 5/3) clay films on faces of peds; few medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine oxidized iron-manganese accumulations throughout; very strongly acid; gradual smooth boundary.

2Bt2—19 to 34 inches; light olive brown (2.5Y 5/4) silty clay; strong coarse angular blocky structure; firm; common fine roots; many prominent grayish brown (2.5Y 5/2) clay films on faces of peds; few fine extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; gradual smooth boundary.

2Bt3—34 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; strong very coarse and coarse subangular blocky structure; very firm; common fine roots; many prominent grayish brown (2.5Y 5/2) clay films lining channels; common medium distinct light yellowish brown (2.5Y 6/4) masses of oxidized iron in the matrix; few black (N 2/) oxidized iron-manganese accumulations throughout; moderately acid; clear smooth boundary.

2BCt1—49 to 54 inches; mixed light olive brown (2.5Y 5/4), yellowish brown (10YR 5/6), and grayish brown (10YR 5/2) silty clay loam; moderate coarse angular blocky structure; very firm; common fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; few fine oxidized iron-manganese accumulations throughout; slightly effervescent; moderately alkaline; clear smooth boundary.

2BCt2—54 to 60 inches; mixed olive brown (2.5Y 4/4) and light olive brown (2.5Y 5/4) silty clay loam; weak coarse angular blocky structure; very firm; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: Less than 20 inches

Depth to carbonates: More than 42 inches
Depth to the base of the argillic horizon: More than 50 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E or BE horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

2Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid to neutral

2BCt, 2BC, or 2C horizon (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay with thin strata of silt loam or fine sandy loam
Content of rock fragments—none
Reaction—neutral to moderately alkaline

122B—Colp silt loam, 2 to 5 percent slopes

Setting

Landform: Lakebeds (relict)
Position on the landform: Summits, shoulders

Map Unit Composition

Colp and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that are deep to weathered bedrock
- Soils on short steep slopes

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains; in landscape positions below those of the Colp soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Colp Soil

Parent material: Loess over lacustrine deposits
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Depth and months of highest perched seasonal high water table: 2 feet, February through April
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

122D2—Colp silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Lakebeds (relict)
Position on the landform: Backslopes, shoulders

Map Unit Composition

Colp and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the upper part of the subsoil
- Soils that are deep to weathered bedrock
- Soils that are severely eroded

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains; in landscape positions below those of the Colp soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Colp Soil

Parent material: Loess over lacustrine deposits
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth and months of highest perched seasonal high water table: 2 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Cowden Series

Taxonomic classification: Fine, smectitic, mesic Mollic Albaqualfs

Typical Pedon

Cowden silt loam, 0 to 2 percent slopes, at an elevation of 665 feet above mean sea level; Montgomery County, Illinois; 30 feet north and 1,980 feet west of the southeast corner of sec. 8, T. 9 N., R. 4 W.; USGS Butler, Illinois, topographic quadrangle; lat. 39 degrees 13 minutes 56.3 seconds N. and long. 89 degrees 33 minutes 19.1 seconds W.; UTM Zone 16S, 0279442 easting 4345667 northing; NAD 83.

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common very fine and few fine roots; few fine continuous tubular pores; few fine irregular dark brown (10YR 3/3) extremely weakly cemented iron-manganese accumulations in the matrix; moderately acid; abrupt smooth boundary.

Eg1—8 to 14 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium platy structure parting to weak fine subangular blocky; friable; few very fine roots; common fine and medium tubular and vesicular pores; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds and on surfaces along pores; few fine irregular dark brown (10YR 3/3) extremely weakly cemented iron-manganese accumulations in the matrix; moderately acid; clear smooth boundary.

Eg2—14 to 19 inches; gray (10YR 5/1) silt loam, light gray (10YR 7/1) dry; weak medium platy structure parting to weak fine subangular blocky; friable; few very fine roots; common fine and medium continuous tubular pores; common fine faint grayish brown (10YR 5/2) masses of iron-manganese oxides in the matrix; common fine irregular dark brown (10YR 3/3) extremely weakly cemented iron-manganese accumulations in the matrix; strongly acid; abrupt smooth boundary.

Btg1—19 to 26 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate medium angular and subangular blocky; firm; common very fine roots; few fine continuous tubular pores; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds in the upper 2 inches; many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/4) and prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium irregular black (10YR 2/1) nodules of iron-manganese with sharp boundaries throughout; strongly acid; clear smooth boundary.

Btg2—26 to 43 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; many prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium irregular black (10YR 2/1) and dark reddish brown (5YR 3/4) nodules of iron-manganese with sharp boundaries throughout; moderately acid; gradual smooth boundary.

Btg3—43 to 50 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse angular blocky structure; firm; few very fine roots; few fine vesicular and tubular pores; few prominent black (10YR 2/1) organic coatings on surfaces along root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix and strong brown (7.5YR 5/6) masses of oxidized iron on surfaces of peds; few medium and coarse irregular black (10YR 2/1) nodules of iron-manganese with clear boundaries throughout; slightly acid; gradual smooth boundary.

BCtg—50 to 58 inches; gray (10YR 6/1) silt loam; weak medium and coarse angular blocky structure; friable; few very fine roots; few fine vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organic coatings on surfaces along root channels and pores; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine and medium strong brown (7.5YR 4/6) masses of oxidized iron on surfaces of peds; few fine and medium irregular black (10YR 2/1) nodules of iron-manganese with clear boundaries throughout; neutral; clear smooth boundary.

Cg—58 to 69 inches; grayish brown (10YR 5/2) silt loam; massive, friable; few fine and medium vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organic coatings on surfaces along root channels and pores; many medium and coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine and medium yellowish red (5YR 5/6) masses of oxidized iron on surfaces throughout; common fine and medium irregular black (5YR 2.5/1) nodules of iron-manganese with diffuse boundaries throughout; about 8 percent sand; neutral; clear smooth boundary.

2Btgb—69 to 80 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to weak medium angular blocky; firm; common medium and coarse vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organic coatings on surfaces along root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses

of oxidized iron in the matrix; few medium and coarse irregular black (5YR 2.5/1) and yellowish red (5YR 4/6) nodules of iron-manganese with clear boundaries throughout; about 15 percent sand and 2 percent pebbles; neutral.

Range in Characteristics

Thickness of the mollic layer: 7 to 9 inches
Thickness of the loess: More than 55 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 40 to 65 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

E horizon:
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

B horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, silty clay, or silt loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid in the upper part and strongly acid to neutral in the lower part

BC or C horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

2C, 2Ab, or 2Btg horizon:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silt loam, silty clay loam, loam, or clay loam
Content of rock fragments—0 to 5 percent
Reaction—moderately acid to slightly alkaline

112A—Cowden silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains

Map Unit Composition

Cowden and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils in the steeper areas

Properties and Qualities of the Cowden Soil

Parent material: Loess over silty mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Darwin Series

Taxonomic classification: Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls

Typical Pedon

Darwin silty clay, 0 to 2 percent slopes, frequently flooded, at an elevation of 433 feet above mean sea level; Lawrence County, Illinois; 838 feet south and 1,280 feet west of the northeast corner of sec. 6, T. 4 N., R. 10 W.; USGS Russellville, Illinois, topographic quadrangle; lat. 38 degrees 49 minutes 14.4 seconds N. and long. 87 degrees 34 minutes 00.8 seconds W.; UTM Zone 16S, 0450789 easting 4297030 northing; NAD 83.

Ap—0 to 7 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; weak very fine granular structure in the upper part and moderate fine and medium angular blocky structure in the lower part; very firm; slightly acid; abrupt smooth boundary.

A—7 to 14 inches; very dark gray (N 3/) silty clay, dark gray (10YR 4/1) dry; weak medium prismatic structure parting to moderate medium angular blocky; firm; few

fine distinct dark yellowish brown (10YR 3/4) extremely weakly cemented iron-manganese accumulations in the matrix; neutral; gradual smooth boundary.

Bg1—14 to 24 inches; dark gray (5Y 4/1) silty clay; weak medium prismatic structure parting to moderate medium and coarse angular blocky; firm; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; gradual smooth boundary.

Bg2—24 to 33 inches; dark gray (5Y 4/1) silty clay; weak coarse prismatic structure parting to moderate medium angular blocky; firm; common fine and medium prominent yellowish brown (10YR 5/4 and 5/6) masses of oxidized iron in the matrix; few fine dark iron-manganese oxide concretions throughout; neutral; gradual smooth boundary.

Bg3—33 to 46 inches; gray (5Y 5/1) silty clay; weak coarse prismatic structure parting to weak medium angular blocky; firm; few medium carbonate concretions, increasing in number in the lower part of the horizon; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few dark iron-manganese oxide concretions throughout; slightly alkaline; abrupt wavy boundary.

BCg—46 to 56 inches; gray (5Y 5/1) silty clay loam; weak medium and coarse angular blocky structure; very firm; many fine prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; gradual smooth boundary.

Cg—56 to 68 inches; gray (5Y 5/1) silty clay loam; massive; firm; many fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: More than 50 inches
Depth to the base of the cambic horizon: 40 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay
Content of rock fragments—none
Reaction—slightly acid or neutral

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay or clay
Content of rock fragments—none
Reaction—slightly acid to slightly alkaline

BCg or Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silty clay, or clay
Content of rock fragments—none
Reaction—neutral to moderately alkaline

3071A—Darwin silty clay, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Depressions on flood plains

Map Unit Composition

Darwin and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the surface layer and subsoil; near sandy terraces
- Soils that have less clay in the subsoil
- Soils that are very deep to bedrock
- Soils that are subject to occasional flooding
- Soils that have a surface layer of silty clay loam or clay loam

Dissimilar soils:
- The somewhat poorly drained Tice and Whitaker soils in the slightly higher positions
- The well drained Stockland and Carmi soils on terraces

Properties and Qualities of the Darwin Soil

Parent material: Clayey alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 5.0 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (November through June)
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Disco Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls

Typical Pedon

Disco sandy loam, 2 to 5 percent slopes, rarely flooded, at an elevation of 449 feet above mean sea level; Clark County, Illinois; 68 feet south and 35 feet east of the northwest corner of sec. 23, T. 9 N., R. 11 W.; USGS Fairbanks, Illinois, topographic quadrangle; lat. 39 degrees 12 minutes 54.7 seconds N. and long. 87 degrees 36 minutes 34.6 seconds W.; UTM Zone 16S, 0447373 easting 4340834 northing; NAD 83.

Ap—0 to 8 inches; very dark gray (10YR 3/1) sandy loam; weak fine granular structure; friable; neutral; abrupt smooth boundary.

A—8 to 17 inches; very dark gray (10YR 3/1) sandy loam; weak fine and medium granular structure; friable; few medium faint very dark grayish brown (10YR 3/2) masses of iron-manganese oxides in the matrix; neutral; gradual smooth boundary.

Bw—17 to 24 inches; very dark grayish brown (10YR 3/2) sandy loam; weak fine subangular blocky structure; friable; few coarse distinct dark yellowish brown (10YR 3/4) oxidized iron-manganese accumulations in the matrix; slightly acid; gradual smooth boundary.

BC—24 to 36 inches; dark yellowish brown (10YR 4/4) sandy loam; weak fine subangular blocky structure; very friable; few pebbles; moderately acid; clear smooth boundary.

C—36 to 60 inches; dark yellowish brown (10YR 4/4) sand, light yellowish brown (10YR 6/4) dry; single grain; loose; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to carbonates: More than 60 inches
Depth to the base of the cambic horizon: 36 to 72 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR or 7.5YR
Value—2 to 3
Chroma—1 to 3
Texture—sandy loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bw or BC horizon:
Hue—10YR, 7.5YR, or 5YR
Value—3 to 5
Chroma—2 to 6
Texture—fine sandy loam to sand
Content of rock fragments—none
Reaction—strongly acid to slightly acid

C horizon:
Hue—10YR, 7.5YR, or 5YR
Value—3 to 5
Chroma—2 to 6
Texture—sand to loamy fine sand; stratified in some pedons
Content of rock fragments—none
Reaction—strongly acid to neutral

7266B—Disco sandy loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Disco and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have gravel below a depth of 30 inches
- Soils that have more gray in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Ambraw and Petrolia soils in swales

Properties and Qualities of the Disco Soil

Parent material: Sandy alluvium
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Drummer Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Drummer silty clay loam, 0 to 2 percent slopes, at an elevation of 715 feet above mean sea level; Champaign County, Illinois; on the University of Illinois South Farm 1 mile south of Urbana; 1,600 feet east and 300 feet north of the southwest corner of sec. 19, T. 19 N., R. 9 E.; USGS Urbana, Illinois, topographic quadrangle; lat. 40 degrees 05 minutes 04 seconds N. and long. 88 degrees 13 minutes 58 seconds W.; UTM Zone 16T, 0394894 easting 4437861 northing; NAD 83.

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; firm; many fine roots; moderately acid; clear smooth boundary.

A—7 to 14 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to weak fine granular; firm; many fine and medium roots; slightly acid; clear smooth boundary.

BA—14 to 19 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; firm; many fine and medium roots; few fine faint very dark grayish brown (2.5Y 3/2) extremely weakly cemented iron-manganese accumulations in the matrix; slightly acid; gradual smooth boundary.

Bg—19 to 25 inches; dark gray (10YR 4/1) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common fine distinct and prominent yellowish brown (10YR 5/4 and 5/6) masses of oxidized iron in the matrix; many worm holes; neutral; gradual smooth boundary.

Btg1—25 to 32 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common distinct dark gray (N 4/) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.

Btg2—32 to 41 inches; gray (N 5/) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; firm; few fine roots; few distinct dark gray (N 4/) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; neutral; clear wavy boundary.

2Btg3—41 to 47 inches; gray (N 5/) loam; weak coarse subangular blocky structure; friable; few fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; abrupt wavy boundary.

2Cg—47 to 60 inches; dark gray (10YR 4/1), stratified loam and sandy loam; massive; friable; many medium prominent olive brown (2.5Y 4/4) masses of oxidized iron and manganese in the matrix; many medium distinct gray (N 5/) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: More than 40 inches
Depth to the base of the cambic horizon: 40 to 65 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam
Content of rock fragments—0 to 1 percent
Reaction—moderately acid to neutral

Bg, BA, or Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 4
Texture—silty clay loam or silt loam
Content of rock fragments—0 to 1 percent
Reaction—moderately acid to neutral

2Btg, 2BCtg, or 2BCg horizon:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—loam or silt loam
Content of rock fragments—0 to 7 percent
Reaction—slightly acid to slightly alkaline

2Cg or 2C horizon:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 8
Texture—loam, sandy loam, sandy clay loam, or clay loam; strata of silt loam or silty clay loam
Content of rock fragments—0 to 15 percent
Reaction—neutral to moderately alkaline

152A—Drummer silty clay loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces
Position on the landform: Toeslopes

Map Unit Composition

Drummer and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have a thin surface layer
- Soils that have a surface layer of silt loam
- Soils that have more sand in the subsoil
- Soils that have a very thick dark surface layer
- Soils that have carbonates near the surface

Dissimilar soils:
- The somewhat poorly drained Brenton soils on slight rises
- The well drained Camden and somewhat poorly drained Starks soils on rises; in landscape positions above those of the Drummer soil
- The moderately well drained Xenia soils in landscape positions above those of the Drummer soil
- Soils that are subject to flooding

Properties and Qualities of the Drummer Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate

Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Ebbert Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Ebbert silt loam, 0 to 2 percent slopes, at an elevation of 597 feet above mean sea level; Effingham County, Illinois; about 1 mile southeast of Montrose; 600 feet north and 50 feet west of the southeast corner of sec. 1, T. 8 N., R. 7 E.; USGS Woodbury, Illinois, topographic quadrangle; lat. 39 degrees 09 minutes 50.4 seconds N. and long. 88 degrees 21 minutes 39.0 seconds W.; UTM Zone 16S, 0382434 easting 4335858 northing; NAD 83.

Ap—0 to 7 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; few medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.
A—7 to 13 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.
E—13 to 22 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.
Btg1—22 to 30 inches; dark gray (10YR 4/1) silty clay loam, gray (10YR 6/1) dry; moderate fine and medium angular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; moderately acid; gradual smooth boundary.
Btg2—30 to 40 inches; dark gray (10YR 4/1) silty clay loam; moderate medium prismatic structure parting to moderate fine angular blocky; firm; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear wavy boundary.
Btg3—40 to 48 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish red (5YR 4/6) and many fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; moderately acid; clear wavy boundary.

2Cg—48 to 60 inches; gray (10YR 5/1) silty clay loam; massive; very firm; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; about 10 percent sand; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Thickness of the loess: More than 40 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E or Eg horizon:
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid or moderately acid

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Cg or 2Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silt loam, or clay loam
Content of rock fragments—0 to 5 percent
Reaction—moderately acid to neutral

48A—Ebbert silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions on till plains

Map Unit Composition

Ebbert and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thin surface layer

- Soils that have more sand in the subsoil
- Soils that have more clay in the subsoil
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The somewhat poorly drained Bluford, Hoyleton, and Oconee soils on slight rises; in landscape positions above those of the Ebbert soil

Properties and Qualities of the Ebbert Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Genesee Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluventic Eutrudepts

Typical Pedon

Genesee sandy loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 585 feet above mean sea level; Edgar County, Illinois; 1,400 feet west and 1,600 feet south of the northeast corner of sec. 27, T. 13 N., R. 11 W.; USGS Sandford, Illinois, topographic quadrangle; lat. 39 degrees 32 minutes 41.5 seconds N. and long. 87 degrees 36 minutes 56.8 seconds W.; UTM Zone 16S, 0447091 easting 4377423 northing; NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) sandy loam, brown (10YR 5/3) dry; moderate fine granular structure; very friable; common very fine roots; neutral; abrupt smooth boundary.
Bw1—7 to 24 inches; brown (10YR 4/3) loam; weak medium subangular blocky structure; friable; few very fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds; slightly alkaline; gradual smooth boundary.
Bw2—24 to 46 inches; brown (10YR 4/3) loam; weak medium subangular blocky structure; friable; few very fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds; very slightly effervescent; slightly alkaline; gradual smooth boundary.

Bw3—46 to 60 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few very fine and fine roots; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; common medium distinct dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; few fine rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; very slightly effervescent; slightly alkaline; gradual smooth boundary.

C—60 to 80 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few very fine and fine roots; common medium distinct grayish brown (10YR 5/2) iron depletions and dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; few fine rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; very slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: 20 to 40 inches
Depth to the base of the cambic horizon: 20 to 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—sandy loam or silt loam
Content of rock fragments—0 to 5 percent
Reaction—slightly acid to slightly alkaline

Bw horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam or loam
Content of rock fragments—0 to 5 percent
Reaction—slightly acid to slightly alkaline

C horizon:
Hue—10YR
Value—3 to 6
Chroma—2 to 4
Texture—stratified loam, silt loam, or fine sandy loam
Content of rock fragments—0 to 14 percent
Reaction—slightly alkaline or moderately alkaline

3431A—Genesee silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Genesee and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand or gravel in the subsoil and substratum
- Soils that are subject to occasional flooding

Dissimilar soils:
- The somewhat poorly drained Shoals and Brouillett soils in swales
- The poorly drained Petrolia soils in swales

Properties and Qualities of the Genesee Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

8431A—Genesee sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains, flood-plain steps

Map Unit Composition

Genesee and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are subject to frequent flooding

Dissimilar soils:
- The somewhat poorly drained Shoals and Brouillett soils in swales
- The poorly drained Petrolia soils in swales

Properties and Qualities of the Genesee Soil

Parent material: Loamy alluvium
Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Occasional, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Hickory Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Hickory silt loam, 18 to 35 percent slopes, at an elevation of 590 feet above mean sea level; Bond County, Illinois; 38 feet north and 792 feet west of the southeast corner of sec. 28, T. 7 N., R. 3 W.; USGS Coffeen, Illinois, topographic quadrangle; lat. 39 degrees 00 minutes 48.3 seconds N. and long. 89 degrees 25 minutes 13.1 seconds W.; UTM Zone 16S, 0290448 easting 4321051 northing; NAD 83.

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; many very fine and few fine and medium roots; few fine and medium continuous tubular pores; about 20 percent sand; very strongly acid; clear smooth boundary.

E—4 to 12 inches; light yellowish brown (10YR 6/4) silt loam, very pale brown (10YR 7/4) dry; weak very thick platy structure parting to weak fine granular; friable; few very fine to medium roots; few fine and medium continuous tubular pores; pockets of dark grayish brown (10YR 4/2) material from the surface layer filling large root channels; 20 percent sand and 1 percent pebbles; strongly acid; clear smooth boundary.

Bt1—12 to 17 inches; yellowish brown (10YR 5/6) clay loam; moderate fine subangular blocky structure; firm; common very fine and few fine and medium roots; common distinct brown (10YR 4/3) clay films on faces of peds; 1 percent pebbles; very strongly acid; clear smooth boundary.

Bt2—17 to 26 inches; dark yellowish brown (10YR 4/6) clay loam; moderate medium subangular blocky structure; firm; few very fine and medium roots; common distinct brown (10YR 5/3) clay films on faces of peds; 2 percent fine and medium pebbles; very strongly acid; gradual smooth boundary.

Bt3—26 to 35 inches; yellowish brown (10YR 5/4) clay loam; moderate coarse and medium angular blocky structure; firm; few very fine and medium roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium pebbles; many medium and coarse prominent brownish yellow (10YR 6/8) and strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine rounded black (10YR 2/1) nodules

of iron-manganese with sharp boundaries throughout; about 3 percent fine and medium pebbles; very strongly acid; gradual smooth boundary.

Bt4—35 to 46 inches; yellowish brown (10YR 5/4) clay loam; weak medium and coarse prismatic structure parting to weak coarse angular blocky; firm; few very fine and medium roots; common distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium and coarse pebbles; many coarse distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine rounded black (10YR 2/1) nodules of iron-manganese with sharp boundaries throughout; 4 percent fine to coarse pebbles; strongly acid; diffuse smooth boundary.

BCt—46 to 58 inches; light yellowish brown (10YR 6/4) loam; weak medium and coarse subangular blocky structure; friable; few very fine and fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium pebbles; common medium distinct dark yellowish brown (10YR 4/6) and few fine distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine rounded black (10YR 2/1) nodules of iron-manganese with sharp boundaries throughout; 5 percent fine and medium pebbles; strongly acid; gradual smooth boundary.

CBt—58 to 65 inches; yellowish brown (10YR 5/6) loam; massive; friable; few very fine and fine roots; few distinct brown (10YR 4/3) clay films on surfaces along root channels and coating medium pebbles; few fine distinct brown (10YR 5/3) iron depletions in the matrix; 5 percent fine and medium gravel; moderately acid; clear smooth boundary.

C—65 to 80 inches; yellowish brown (10YR 5/4), strong brown (7.5YR 5/6), and light gray (10YR 7/1) loam; massive; friable; few very fine roots; 3 percent fine and medium gravel; slightly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: Less than 20 inches
Depth to carbonates: More than 40 inches
Depth to the base of the argillic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR or 7.5YR
Value—2 to 5
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to moderately acid, except in limed areas

E horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam or loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to moderately acid, except in limed areas

Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6

Texture—clay loam, loam, gravelly clay loam, or silty clay loam
Content of rock fragments—0 to 20 percent
Reaction—very strongly acid to moderately acid; ranges to neutral in the lower part

BC or BCt horizon (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, gravelly clay loam, or sandy loam
Content of rock fragments—0 to 20 percent
Reaction—strongly acid to moderately acid; ranges to neutral in the lower part

C and CBt horizons:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 to 7
Chroma—1 to 8
Texture—loam, clay loam, or sandy loam or the gravelly analogs of these textures
Content of rock fragments—2 to 20 percent
Reaction—moderately acid to moderately alkaline

8F—Hickory silt loam, 18 to 35 percent slopes

Setting

Landform: Ground moraines, hillslopes
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that have more gray in the lower part of the subsoil
- Soils that are moderately deep to carbonates
- Soils that have a brittle subsoil; on shoulder slopes in landscape positions above those of the Hickory soil
- Soils that have a surface layer of loam

Dissimilar soils:
- Soils that have bedrock at a moderate depth
- The somewhat poorly drained Atlas and Blair soils at the head of drainageways; in landscape positions above those of the Hickory soil
- The somewhat poorly drained Brouillett and Shoals soils on flood plains; in landscape positions below those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

8G—Hickory loam, 35 to 60 percent slopes

Setting

Landform: Till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that have more gray in the lower part of the subsoil
- Soils that are moderately deep to carbonates

Dissimilar soils:
- Soils that have bedrock at a moderate depth
- The somewhat poorly drained Atlas and Blair soils at the head of drainageways; in landscape positions above those of the Hickory soil
- The somewhat poorly drained Brouillett and Shoals soils on flood plains; in landscape positions below those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

842G—Hickory-Rock outcrop complex, 35 to 60 percent slopes

Setting

Landform: Till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 65 percent
Rock outcrop: 30 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that have more gray in the lower part of the subsoil
- Soils that are moderately deep to carbonates
- Soils that are moderately steep

Dissimilar components:
- The somewhat poorly drained Atlas and Blair soils at the head of drainageways; in landscape positions above those of the Hickory soil
- The somewhat poorly drained Brouillett and Shoals soils on flood plains; in landscape positions below those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Characteristics of the Rock Outcrop

Kind of bedrock: Limestone and sandstone
Available water capacity: Less than 1 inch
Surface runoff class: Very high

Interpretive Groups

Land capability classification: Hickory—7e; Rock outcrop—8
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Rock outcrop—not applicable

946D2—Hickory-Atlas silt loams, 10 to 18 percent slopes, eroded

Setting

Landform: Hillslopes on till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 45 percent
Atlas and similar soils: 40 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that are moderately deep to carbonates
- Soils that have a brittle subsoil
- Soils that are severely eroded
- Soils that are moderately sloping

Dissimilar soils:
- Soils that have bedrock at a moderate depth
- The somewhat poorly drained Brouillett and Shoals soils on flood plains; in landscape positions below those of the Atlas and Hickory soils

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—4e; Atlas—4e
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Atlas—not hydric

946D3—Hickory-Atlas clay loams, 10 to 18 percent slopes, severely eroded

Setting

Landform: Hillslopes, till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 45 percent
Atlas and similar soils: 40 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that are moderately deep to carbonates
- Soils that are less eroded
- Soils that are moderately sloping
- Soils that have a surface layer of silty clay loam or loam

Dissimilar soils:
- Soils that have bedrock at a moderate depth
- The somewhat poorly drained Brouillett and Shoals soils on flood plains; in landscape positions below those of the Atlas and Hickory soils

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent

Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleo accretionary deposits and/or loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—4e; Atlas—4e
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Atlas—not hydric

Hosmer Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Hosmer silt loam, 2 to 5 percent slopes, at an elevation of 510 feet above mean sea level; Crawford County, Illinois; 2,250 feet south and 1,350 feet east of the northwest corner of sec. 9, T. 5 N., R. 11 W.; USGS Heathsville, Illinois, topographic quadrangle; lat. 38 degrees 53 minutes 25.6 seconds N. and long. 87 degrees 38 minutes 47.0 seconds W.; UTM Zone 16S, 0443941 easting 4304817 northing; NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, light yellowish brown (10YR 6/4) dry; moderate fine and medium granular structure parting to moderate very fine granular; friable; many very fine roots; neutral; clear smooth boundary.
E—8 to 10 inches; brown (10YR 5/3) silt loam; moderate thin and medium platy structure; friable; many very fine and few fine roots; moderately acid; clear smooth boundary.
BE—10 to 15 inches; yellowish brown (10YR 5/6) silt loam and silty clay loam; moderate medium platy structure parting to weak fine subangular blocky; firm;

common very fine and few fine roots; few fine faint brownish yellow (10YR 6/6) masses of oxidized iron and common fine and medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; moderately acid; clear smooth boundary.

Bt—15 to 24 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; common faint yellowish brown (10YR 5/4) clay films and common prominent white (10YR 8/1) (dry) silt coatings on faces of peds; common fine distinct brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Btx1—24 to 32 inches; yellowish brown (10YR 5/6 and 5/4) silty clay loam; moderate very coarse prismatic structure; firm; common very fine and few fine roots; many prominent white (10YR 8/1) (dry) silt coatings, few distinct brown (10YR 5/3) clay films, and few prominent black (2.5YR 2/1) manganese coatings on faces of peds; brittle; common fine distinct brownish yellow (10YR 6/8) and few fine prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Btx2—32 to 53 inches; yellowish brown (10YR 5/6) silty clay loam; moderate very coarse prismatic structure; firm; few distinct pale brown (10YR 6/3) clay films and many prominent white (10YR 8/1) (dry) silt coatings on faces of peds; few distinct grayish brown (10YR 5/2) clay films in root channels; brittle; common fine and medium distinct yellowish brown (10YR 5/8) masses of oxidized iron and few fine and medium distinct light yellowish brown (10YR 6/4) iron depletions in the matrix; strongly acid; abrupt smooth boundary.

C—53 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; firm; few fine roots; common prominent white (10YR 8/1) (dry) silt coatings on surfaces along pores; common fine and medium prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; moderately acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: More than 60 inches
Depth to carbonates: More than 80 inches
Depth to the base of the argillic horizon: More than 50 inches
Depth to bedrock: More than 80 inches
Depth to the fragipan: 20 to 36 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E or BE horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 6
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

Bt, Btx, or 2Btx horizon:
Hue—7.5YR or 10YR
Value—4 to 6

Chroma—3 to 8
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

BC, BCt, B´t, 2BC, 2BCt, C, or 2C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

214B—Hosmer silt loam, 2 to 5 percent slopes

Setting

Landform: Till plains
Position on the landform: Shoulders, summits

Map Unit Composition

Hosmer and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are not brittle in the subsoil
- Soils that are eroded
- Soils that are nearly level

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils on moderately steep side slopes; in landscape positions below those of the Hosmer soil
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Hosmer soil

Properties and Qualities of the Hosmer Soil

Parent material: Loess
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest perched seasonal high water table: 1.5 feet, February through April
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Hoyleton Series

Taxonomic classification: Fine, smectitic, mesic Aquollic Hapludalfs

Typical Pedon

Hoyleton silt loam, 0 to 2 percent slopes, at an elevation of 655 feet above mean sea level; Shelby County, Illinois; 295 feet south and 2,160 feet east of the northwest corner of sec. 15, T. 9 N., R. 5 E.; USGS Shumway, Illinois, topographic quadrangle; lat. 39 degrees 13 minutes 46.1 seconds N. and long. 88 degrees 37 minutes 48.4 seconds W.; UTM Zone 16S, 0359299 easting 4343508 northing; NAD 83.

Ap—0 to 8 inches; dark brown (10YR 3/3) and very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine roots; few fine rounded concretions of iron-manganese throughout; moderately acid; abrupt smooth boundary.

E—8 to 11 inches; brown (10YR 5/3) silt loam; weak thin platy structure; friable; common very fine and few fine roots; common faint dark grayish brown (10YR 4/2) organic stains on surfaces along root channels and pores; few fine rounded concretions and stains of iron-manganese throughout; strongly acid; clear smooth boundary.

BEt—11 to 14 inches; brown (10YR 5/3) silty clay loam; weak fine subangular blocky structure; friable; few very fine roots; few faint grayish brown (10YR 5/2) clay films and few distinct very pale brown (10YR 7/3) (dry) silt coatings on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine rounded concretions of iron-manganese throughout; strongly acid; clear smooth boundary.

Bt1—14 to 20 inches; brown (10YR 5/3) silty clay loam; strong fine subangular blocky structure; firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films and many prominent very pale brown (10YR 8/2) (dry) silt coatings on faces of peds; common medium prominent yellowish red (5YR 5/6 and 5/8) masses of oxidized iron in the matrix; common fine rounded concretions of iron-manganese throughout; strongly acid; clear smooth boundary.

Bt2—20 to 33 inches; brown (10YR 5/3) silty clay; moderate medium subangular blocky structure; firm; few fine and very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct dark gray (10YR 4/1) clay films on surfaces along root channels and pores; common fine prominent yellowish red (5YR 5/8) masses of oxidized iron and common medium faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine rounded concretions of iron-manganese throughout; strongly acid; gradual smooth boundary.

2Bt3—33 to 39 inches; pale brown (10YR 6/3) silty clay loam; weak coarse subangular blocky structure; firm; few fine and very fine roots; few faint grayish brown (10YR 5/2) clay films on faces of peds; few faint very dark grayish brown (10YR 3/2) organo-clay films on surfaces along root channels and pores; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron and common medium faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine rounded concretions of iron-manganese throughout; about 10 percent fine sand; strongly acid; gradual smooth boundary.

2BCt—39 to 54 inches; pale brown (10YR 6/3) silt loam; weak very coarse subangular blocky structure; friable; few very fine roots; few faint dark gray (10YR 4/1) clay films on surfaces along root channels and pores; few fine prominent yellowish brown (10YR 5/8) and few fine faint yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; common fine rounded concretions of iron-manganese throughout; about 15 percent fine sand; slightly acid; gradual smooth boundary.

2Cg—54 to 80 inches; brown (7.5YR 5/2) silt loam; massive; friable; many medium prominent strong brown (7.5YR 4/6) and many medium distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine rounded concretions of iron-manganese throughout; about 25 percent fine sand; slightly acid.

Range in Characteristics

Thickness of the mollic layer: 7 to 9 inches
Thickness of the loess: 30 to 55 inches
Depth to carbonates: More than 80 inches
Depth to the base of the argillic horizon: More than 36 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid, except in limed areas

E, EB, BE, or BEt horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid, except in limed areas

Bt or Btg horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid or strongly acid

2BCt or 2BCtg horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 to 4
Texture—silt loam, loam, silty clay loam, or clay loam
Content of rock fragments—0 to 5 percent
Reaction—strongly acid to slightly acid

2C or 2Cg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6

Chroma—1 to 4
Texture—silty clay loam, clay loam, or silt loam
Content of rock fragments—0 to 5 percent
Reaction—moderately acid to neutral

3A—Hoyleton silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains, ground moraines
Position on the landform: Summits

Map Unit Composition

Hoyleton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have a brittle subsoil
- Soils that have a thin, light-colored surface layer
- Soils that have more sand in the subsoil

Dissimilar soils:
- The poorly drained Cisne soils on flats; in landscape positions above those of the Hoyleton soil

Properties and Qualities of the Hoyleton Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

3B—Hoyleton silt loam, 2 to 5 percent slopes

Setting

Landform: Till plains, ground moraines
Position on the landform: Shoulders, backslopes, summits

Map Unit Composition

Hoyleton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a brittle subsoil
- Soils that are eroded
- Soils that have a thick dark surface layer
- Soils that have more sand in the subsoil

Dissimilar soils:
- The poorly drained Cisne soils on flats; in landscape positions above those of the Hoyleton soil

Properties and Qualities of the Hoyleton Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Huey Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Natraqualfs

Typical Pedon

Huey silt loam, in an area of Cisne-Huey silt loams, 0 to 2 percent slopes, at an elevation of 635 feet above mean sea level; Effingham County, Illinois; about 8 miles west and 2.75 miles north of Effingham; 1,040 feet east and 1,290 feet south of the

northwest corner of sec. 12, T. 8 N., R. 4 E.; USGS Shumway, Illinois, topographic quadrangle; lat. 39 degrees 09 minutes 33.8 seconds N. and long. 88 degrees 42 minutes 23.4 seconds W.; UTM Zone 16S, 0352558 easting 4335850 northing; NAD 83.

Ap—0 to 8 inches; dark grayish brown (2.5Y 4/2) silt loam, light brownish gray (2.5Y 6/2) dry; moderate fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.

E—8 to 10 inches; grayish brown (2.5Y 5/2) silt loam; weak thin platy structure parting to weak fine granular; friable; common fine roots; moderately acid; clear smooth boundary.

Btg—10 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds in the upper 3 inches; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine black (N 2.5/) extremely weakly cemented manganese accumulations throughout; neutral; clear smooth boundary.

Btng1—15 to 18 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse subangular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine black (N 2.5/) extremely weakly cemented manganese accumulations throughout; moderately alkaline; clear smooth boundary.

Btng2—18 to 23 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse subangular blocky structure; very firm; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine black (N 2.5/) extremely weakly cemented manganese accumulations throughout; few white (N 8/) calcium carbonate accumulations throughout; moderately alkaline; gradual smooth boundary.

Btng3—23 to 34 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse subangular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few medium and coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine black (N 2.5/) extremely weakly cemented manganese accumulations throughout; moderately alkaline; gradual smooth boundary.

Btng4—34 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse angular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common coarse prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; few fine and coarse black (N 2.5/) extremely weakly cemented manganese accumulations throughout; moderately alkaline; gradual smooth boundary.

2BCtg—49 to 57 inches; light brownish gray (10YR 6/2) silt loam; weak coarse subangular blocky structure; firm; few faint grayish brown (10YR 5/2) clay films on faces of peds and on surfaces along crayfish holes and pores; about 20 percent sand; common coarse prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; few fine black (N 2.5/) extremely weakly cemented manganese accumulations throughout; moderately alkaline; gradual smooth boundary.

2Cg—57 to 65 inches; light brownish gray (10YR 6/2) loam; massive; friable; common coarse prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: More than 45 inches
Carbonates: Commonly occur in natric horizon
Depth to the base of the natric horizon: More than 45 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E or Eg horizon:
Hue—10YR
Value—5 or 6
Chroma—2
Texture—silt or silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

Btg horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—slightly acid to moderately alkaline

Btng horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—slightly alkaline to strongly alkaline

2BCg, 2BCtg, or 2Cg horizon (where present):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—silty clay loam, silt loam, or loam
Content of rock fragments—2 to 14 percent
Reaction—neutral to moderately alkaline

991A—Cisne-Huey silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines, till plains
Position on the landform: Summits

Map Unit Composition

Cisne and similar soils: 50 percent
Huey and similar soils: 40 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Newberry and Wynoose soils in landscape positions similar to those of the Cisne and Huey soils

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils on the steeper slopes

Properties and Qualities of the Cisne Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 16 to 21 inches to abrupt textural change
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Huey Soil

Parent material: Loess over loamy mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow to moderately slow
Depth to restrictive feature: 8 to 16 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Cisne—3w; Huey—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Cisne—hydric; Huey—hydric

Jules Series

Taxonomic classification: Coarse-silty, mixed, superactive, calcareous, mesic Typic Udifluvents

Typical Pedon

Jules silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 444 feet above mean sea level; Clark County, Illinois; 500 feet south and 1,730 feet east of the northwest corner of sec. 34, T. 9 N., R. 11 W.; USGS West Union, Illinois, topographic quadrangle; lat. 39 degrees 11 minutes 07.0 seconds N. and long. 87 degrees 37 minutes 54.8 seconds W.; UTM Zone 16S, 0445426 easting 4337527 northing; NAD 83.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; slightly effervescent; slightly alkaline; abrupt smooth boundary.
C1—10 to 15 inches; 85 percent brown (10YR 4/3) and 15 percent dark grayish brown (10YR 4/2) silt loam with some grains of sand; massive; friable; very slightly effervescent; slightly alkaline; gradual smooth boundary.
C2—15 to 28 inches; brown (10YR 4/3) silt loam with some grains of sand; massive; friable; very slightly effervescent; slightly alkaline; abrupt smooth boundary.
C3—28 to 31 inches; brown (10YR 4/3) very fine sand; single grain; loose; slightly effervescent; slightly alkaline; clear smooth boundary.
C4—31 to 54 inches; brown (10YR 4/3) silt loam with some lenses of sand; massive; friable; few fine prominent black (N 2.5/) concretions of iron-manganese oxides throughout; few grayish brown (10YR 5/2) worm casts; very slightly effervescent; slightly alkaline; abrupt smooth boundary.
Ab—54 to 72 inches; dark brown (10YR 3/3) silty clay loam; weak medium subangular blocky structure; firm; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: Less than 10 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—slightly alkaline or moderately alkaline

C horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam, typically with thin strata of very fine sand to loam

Content of rock fragments—none
Reaction—slightly alkaline or moderately alkaline

Ab horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silty clay loam
Content of rock fragments—none
Reaction—slightly alkaline or moderately alkaline

3028A—Jules silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Jules and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil
- Soils that are not calcareous
- Soils that are subject to occasional flooding

Dissimilar soils:
- The poorly drained Darwin and Petrolia soils in swales

Properties and Qualities of the Jules Soil

Parent material: Stratified, calcareous silty alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Lamont Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Lamont fine sandy loam, 2 to 5 percent slopes, rarely flooded, at an elevation of 526 feet above mean sea level; Clark County, Illinois; 30 feet south and 420 feet east of the northwest corner of sec. 28, T. 10 N., R. 11 W.; USGS Snyder, Illinois, topographic quadrangle; lat. 39 degrees 17 minutes 17.2 seconds N. and long. 87 degrees 38 minutes 45.8 seconds W.; UTM Zone 16S, 0444285 easting 4348948 northing; NAD 83.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; slightly acid; gradual smooth boundary.

E1—8 to 15 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium platy structure; very friable; slightly acid; gradual smooth boundary.

E2—15 to 20 inches; dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4) fine sandy loam; weak thick platy structure; very friable; moderately acid; clear smooth boundary.

Bt1—20 to 35 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt2—35 to 40 inches; brown (7.5YR 4/4) sandy loam; weak medium and coarse subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

C—40 to 60 inches; yellowish brown (10YR 5/6) fine sand; single grain; loose; thin band of dark reddish brown (5YR 3/4) at a depth of about 50 inches; moderately acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Texture—fine sandy loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—fine sandy loam or sandy loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bt or Bw horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—sandy loam, fine sandy loam, loam, or sandy clay loam

Content of rock fragments—none
Reaction—strongly acid to slightly acid

E and Bt horizon (where present):
Hue—7.5YR or 10YR
Value—4 to 6 (E part); 3 or 4 (Bt part)
Chroma—4 to 6 (E part); 3 or 4 (Bt part)
Texture—fine sandy loam, loamy fine sand, loamy sand, or sand (E part); sandy loam or loamy sand (Bt part)
Content of rock fragments—none
Reaction—strongly acid to neutral

BC or C horizon (where present):
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—3 or 4
Texture—fine sandy loam, loamy fine sand, loamy sand, sand, or sandy loam
Content of rock fragments—none
Reaction—strongly acid to neutral

175D2—Lamont fine sandy loam, 10 to 18 percent slopes, eroded

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Backslopes

Map Unit Composition

Lamont and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that are severely eroded
- Soils that are more sandy throughout
- Soils that have a surface layer of loamy sand

Dissimilar soils:
- The somewhat poorly drained Brouillett and Stonelick soils on flood plains
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Lamont Soil

Parent material: Eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Low
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate

Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: High
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

7175B—Lamont fine sandy loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Lamont and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that are eroded
- Soils that have a surface layer and subsoil of loamy sand or sand

Dissimilar soils:
- The somewhat poorly drained Brouillett and Stonelick soils on flood plains
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Lamont Soil

Parent material: Eolian deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 3s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

830B—Landfills

- This map unit consists of areas used as sanitary landfills. Garbage and other refuse and rubble from the demolition of buildings and pavement typically are covered by a layer of compacted earth. The soil material is generally classified as Orthents. Slopes range widely. Some landfills are active, but some have been abandoned.

Map Unit Composition

Landfills: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The well drained Hickory soils on steep slopes
- The moderately well drained Ava soils on the less sloping summits

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Menfro Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Menfro silt loam, 2 to 5 percent slopes, at an elevation of 555 feet above mean sea level; Crawford County, Illinois; 1,276 feet south and 2,897 feet east of the northwest corner of sec. 12, T. 6 N., R. 11 W.; USGS Heathsville, Illinois, topographic quadrangle; lat. 38 degrees 58 minutes 56.2 seconds N. and long. 87 degrees 35 minutes 02.1 seconds W.; UTM Zone 16S, 0449425 easting 4314971 northing; NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) (rubbed) silt loam; moderate medium granular structure; very friable; many very fine roots throughout; common very fine and fine moderately continuous tubular pores; slightly acid; abrupt smooth boundary.

Bt1—10 to 20 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate coarse and medium prismatic structure parting to moderate medium angular blocky; friable; common very fine roots throughout; common very fine and fine highly continuous tubular pores; many distinct brown (10YR 4/3) clay films on faces of peds and on surfaces along root channels and pores; moderately acid; clear wavy boundary.

Bt2—20 to 27 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate coarse and medium prismatic structure; friable; common very fine roots throughout; common very fine highly continuous tubular pores; many distinct brown (10YR 4/3) clay films on surfaces along root channels and pores; few fine and medium irregular black (10YR 2/1) extremely weakly cemented iron-manganese accumulations throughout; moderately acid; clear wavy boundary.

Bt3—27 to 39 inches; 80 percent dark yellowish brown (10YR 4/4) and 20 percent yellowish brown (10YR 5/4) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots throughout; few very fine highly continuous tubular pores; many distinct brown (10YR 4/3) clay films on faces of peds and on surfaces along root channels and pores; moderately acid; clear wavy boundary.

Bt4—39 to 47 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent yellowish brown (10YR 5/4) silt loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; very friable; common very fine roots throughout; few very fine highly continuous tubular pores; common distinct brown (10YR 4/3) clay films on vertical faces of peds, few distinct brown (10YR 4/3) clay films on horizontal faces of peds, and many distinct brown (10YR 4/3) clay films on surfaces along root channels and pores; slightly acid; gradual wavy boundary.

Bt5—47 to 56 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent dark yellowish brown (10YR 4/4) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; very friable; few very fine roots throughout; few very fine moderately continuous tubular pores; few faint brown (10YR 4/3) clay films on faces of peds and common faint brown (10YR 4/3) clay films on surfaces along root channels and pores; slightly acid; gradual wavy boundary.

BCt—56 to 70 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; very friable; few very fine roots throughout; few very fine moderately continuous tubular pores; few faint dark yellowish brown (10YR 4/4) clay films on vertical faces of peds and common faint brown (10YR 4/3) clay films on surfaces along root channels and pores; few fine irregular black (10YR 2/1) extremely weakly cemented iron-manganese accumulations throughout; slightly acid; gradual wavy boundary.

C—70 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; very friable; slightly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: More than 72 inches
Depth to carbonates: More than 40 inches
Depth to the base of the argillic horizon: More than 30 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 4
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

BC or BCt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—strongly acid to neutral

C horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

79B—Menfro silt loam, 2 to 5 percent slopes

Setting

Landform: Loess bluffs, interfluves
Position on the landform: Shoulders, summits

Map Unit Composition

Menfro and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that have more gray in the lower part of the subsoil
- Soils that have carbonates in the subsoil

Dissimilar soils:
- The somewhat poorly drained Blair and Atlas soils in moderately steep areas; in landscape positions below those of the Menfro soil
- The somewhat poorly drained Stoy soils in landscape positions similar to those of the Menfro soil
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Menfro soil

Properties and Qualities of the Menfro Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High

Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

79D2—Menfro silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Loess bluffs, interfluves
Position on the landform: Backslopes

Map Unit Composition

Menfro and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the lower part of the subsoil
- Soils that have more gray in the lower part of the subsoil
- Soils that have carbonates in the subsoil
- Soils that are severely eroded

Dissimilar soils:
- The somewhat poorly drained Stoy soils in the less sloping positions
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Menfro soil

Properties and Qualities of the Menfro Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Millbrook Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs

Taxadjunct features: The Millbrook soils in this survey area are less gray in the upper part of the subsoil than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Aquollic Hapludalfs.

Typical Pedon

Millbrook silt loam, 0 to 2 percent slopes, at an elevation of about 660 feet above mean sea level; Champaign County, Illinois; 55 feet north and 2,240 feet west of the southeast corner of sec. 36, T. 17 N., R. 9 E.; USGS Villa Grove NW, Illinois, topographic quadrangle; lat. 39 degrees 52 minutes 49 seconds N. and long. 88 degrees 07 minutes 51 seconds W.; UTM Zone 16S, 0403298 easting 4415084 northing; NAD 83.

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; few fine rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; neutral; abrupt smooth boundary.

E—7 to 14 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to moderate medium granular; friable; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese oxides throughout; many fine faint brown (10YR 4/3) masses of oxidized iron and manganese and few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bt—14 to 21 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds and on surfaces along pores; few medium irregular black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; few fine distinct yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common medium prominent grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Btg1—21 to 35 inches; 70 percent gray (10YR 5/1) and 30 percent yellowish brown (10YR 5/6) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds and on surfaces along pores; common medium irregular black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; moderately acid; clear smooth boundary.

2Btg2—35 to 44 inches; gray (10YR 5/1) clay loam; moderate medium prismatic structure; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organo-clay films on surfaces along pores; few medium irregular black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; many coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2BCg—44 to 55 inches; 60 percent gray (10YR 5/1) and 40 percent yellowish brown (10YR 5/4), stratified clay loam and sandy loam; weak medium prismatic structure; friable; few medium irregular black (7.5YR 2.5/1) coatings of iron-manganese on faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; 10 percent fine gravel in the clay loam strata; neutral; clear smooth boundary.

2Cg1—55 to 73 inches; 60 percent gray (10YR 5/1) and 40 percent yellowish brown (10YR 5/4) sandy loam stratified with thin lenses of coarse sand; massive; very friable; 5 percent fine gravel; neutral; abrupt smooth boundary.

2Cg2—73 to 80 inches; 60 percent pale brown (10YR 6/3) and 40 percent light brownish gray (10YR 6/2) sandy loam; massive; very friable; 5 percent fine gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic layer: 7 to 9 inches
Thickness of the loess: 24 to 40 inches
Depth to carbonates: More than 40 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

E horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

2Btg, 2Bt, 2BCt, 2BCg, or 2BCtg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—sandy loam, sandy clay loam, loam, or clay loam; typically with thin strata of sand or silt loam
Content of rock fragments—0 to 10 percent
Reaction—moderately acid to slightly alkaline

2Cg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 8
Texture—stratified sandy loam, loam, clay loam, sandy clay loam, or silt loam; thin strata of coarser textures in some pedons
Content of rock fragments—0 to 10 percent
Reaction—neutral to moderately alkaline

219A—Millbrook silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, outwash terraces
Position on the landform: Summits, footslopes

Map Unit Composition

Millbrook and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the upper part of the subsoil
- Soils that are subject to very rare flooding
- Soils that have a thin, light-colored surface layer

Dissimilar soils:
- The well drained Camden and Senachwine soils in strongly sloping and moderately steep areas; in landscape positions above those of the Millbrook soil
- The poorly drained Drummer and Brooklyn soils in swales
- Soils that are subject to flooding

Properties and Qualities of the Millbrook Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

M-W—Miscellaneous water

- This map unit consists of manmade water bodies that are used for industrial, sanitary, or mining applications and that contain water most of the year. The water in these areas is typically not potable and is unsuitable for either fishing or swimming.

Muren Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Muren silt loam, 0 to 2 percent slopes, at an elevation of 537 feet above mean sea level; Clark County, Illinois; 45 feet south and 25 feet west of the northeast corner of sec. 16, T. 10 N., R. 11 W.; USGS Snyder, Illinois, topographic quadrangle; lat. 39 degrees 19 minutes 02.0 seconds N. and long. 87 degrees 37 minutes 44.1 seconds W.; UTM Zone 16S, 0445785 easting 4352170 northing; NAD 83.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; few fine roots throughout; slightly acid; abrupt smooth boundary.

E—9 to 12 inches; light brownish gray (10YR 6/2) silt loam; weak medium granular structure; friable; few fine roots throughout; many fine faint brown (10YR 5/3) and grayish brown (10YR 5/2) clay depletions in the matrix; strongly acid; clear smooth boundary.

Bt1—12 to 16 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; firm; few fine roots throughout; common faint grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron and many fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear smooth boundary.

Bt2—16 to 27 inches; brown (10YR 5/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few fine roots throughout; common faint grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron and many fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear smooth boundary.

Bt3—27 to 40 inches; yellowish brown (10YR 5/6) silty clay loam; moderate coarse subangular blocky structure; firm; few fine roots throughout; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many fine distinct brown (10YR 5/3) and common fine prominent gray (10YR 6/1) iron depletions in the matrix; very strongly acid; gradual smooth boundary.

BC1—40 to 48 inches; yellowish brown (10YR 5/6) silty clay loam; moderate coarse subangular blocky structure; firm; few fine roots throughout; many fine prominent grayish brown (10YR 5/2) and many fine distinct brown (10YR 5/3) iron depletions in the matrix; neutral; gradual smooth boundary.

BC2—48 to 54 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; firm; few fine roots throughout; many fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly alkaline; gradual smooth boundary.

C—54 to 60 inches; 40 percent yellowish brown (10YR 5/6), 30 percent brown (10YR 5/3), and 30 percent gray (10YR 6/1) silt loam; massive; friable; slightly alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: More than 80 inches
Depth to carbonates: More than 80 inches
Depth to the base of the argillic horizon: 30 to 70 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to slightly acid

Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

BC, BCt, or C horizon:
Hue—10YR
Value—4 to 7
Chroma—3 to 6
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

453A—Muren silt loam, 0 to 2 percent slopes

Setting

Landform: Loess bluffs
Position on the landform: Summits

Map Unit Composition

Muren and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil
- Soils that have carbonates in the subsoil
- Soils that have less gray in the subsoil

Dissimilar soils:
- The well drained Lamont soils on terraces; in landscape positions below those of the Muren soil
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Muren soil

- The poorly drained Virden soils on talfs; in landscape positions above those of the Muren soil

Properties and Qualities of the Muren Soil

Parent material: Loess
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1.5 feet, February through April
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

453B—Muren silt loam, 2 to 5 percent slopes

Setting

Landform: Loess bluffs
Position on the landform: Summits

Map Unit Composition

Muren and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that have more sand in the subsoil
- Soils that have carbonates in the subsoil
- Soils that have less gray in the subsoil

Dissimilar soils:
- The well drained Lamont soils on terraces; in landscape positions below those of the Muren soil
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Muren soil

Properties and Qualities of the Muren Soil

Parent material: Loess
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1.5 feet, February through April
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Newberry Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Mollic Endoaqualfs

Typical Pedon

Newberry silt loam, 0 to 2 percent slopes, at an elevation of 432 feet above mean sea level; Richland County, Illinois; 173 feet south and 2,482 feet west of the northeast corner of sec. 18, T. 3 N., R. 10 E.; USGS Noble, Illinois, topographic quadrangle; lat. 38 degrees 41 minutes 59.6 seconds N. and long. 88 degrees 08 minutes 24.0 seconds W.; UTM Zone 16S, 0400868 easting 4284091 northing; NAD 83.

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; few fine and very fine roots throughout; few fine and common very fine tubular pores; neutral; abrupt smooth boundary.

Eg—9 to 16 inches; light brownish gray (2.5Y 6/2) silt loam, white (2.5Y 8/1) dry; weak medium platy structure parting to weak medium subangular blocky; friable; common very fine roots throughout; few very fine tubular pores; common fine rounded prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; moderately acid; clear smooth boundary.

BEtg—16 to 20 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; few very fine tubular pores; few faint light brownish gray (2.5Y 6/2) clay films and common prominent white (10YR 8/1) (dry) silt coatings on faces of peds; few fine rounded prominent brownish yellow (10YR 6/6) masses of oxidized iron throughout; strongly acid; clear smooth boundary.

Btg1—20 to 30 inches; grayish brown (10YR 5/2) silty clay loam; strong medium prismatic structure; very firm; few very fine roots throughout; few very fine tubular pores; many prominent dark grayish brown (10YR 4/2) clay films and few prominent white (10YR 8/1) (dry) silt coatings on faces of peds; common medium rounded prominent yellowish brown (10YR 5/8) masses of oxidized iron and few fine and medium rounded distinct black (2.5Y 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; clear smooth boundary.

Btg2—30 to 35 inches; grayish brown (2.5Y 5/2) silty clay loam; strong medium prismatic structure parting to moderate medium subangular blocky; very firm; few very fine roots throughout; few very fine tubular pores; common distinct dark grayish brown (10YR 4/2) and brown (10YR 4/3) clay films and very few prominent white (10YR 8/1) (dry) silt coatings on faces of peds; few fine rounded prominent strong brown (7.5YR 5/8) masses of oxidized iron and common fine and medium rounded distinct black (2.5Y 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; clear smooth boundary.

2Btg3—35 to 48 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium subangular blocky; very firm; few very fine roots throughout; few very fine tubular pores; few faint dark grayish brown (10YR 4/2) clay films and very few prominent white (10YR 8/1) (dry) silt coatings on faces of peds; common fine and medium rounded prominent dark yellowish brown (10YR 4/6) masses of oxidized iron and few fine and medium rounded distinct black (2.5Y 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; krotovina (15 percent); very strongly acid; clear smooth boundary.

3Btgb1—48 to 63 inches; gray (2.5Y 5/1) clay loam; strong medium prismatic structure; very firm; few very fine roots throughout; few very fine and fine tubular pores; many prominent gray (2.5Y 5/1) clay films and very few prominent white (10YR 8/1) (dry) silt coatings on faces of peds; common medium and coarse irregular prominent strong brown (7.5YR 5/8) masses of oxidized iron and few medium and coarse rounded distinct black (2.5Y 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; about 1 percent fine gravel; neutral; abrupt smooth boundary.

3Btgb2—63 to 80 inches; gray (2.5Y 5/1) clay loam; strong medium and coarse prismatic structure; very firm; few very fine and fine tubular pores; many prominent gray (2.5Y 5/1) clay films and very few distinct brown (10YR 4/3) clay films on faces of peds; common medium and coarse irregular prominent strong brown (7.5YR 5/8) masses of oxidized iron and few coarse irregular distinct black (2.5Y 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; about 1 percent fine gravel; neutral.

Range in Characteristics

Thickness of the mollic layer: 7 to 9 inches
Thickness of the loess: 30 to 55 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

Eg or E horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Content of rock fragments—none
Reaction—very strongly acid to moderately acid

Btg, Bt/E, BEg, or BEtg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

2Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, loam, or silt loam
Content of rock fragments—0 to 10 percent
Reaction—very strongly acid to neutral

3Btgb, 3Ab, 3Btb, or 3Bt horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 3
Texture—clay loam or silty clay loam
Content of rock fragments—0 to 15 percent
Reaction—moderately acid to neutral

218A—Newberry silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains
Position on the landform: Summits

Map Unit Composition

Newberry and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have a light-colored surface layer
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The somewhat poorly drained Hoyleton soils on summits; in landscape positions above those of the Newberry soil
- The very poorly drained Shiloh soils in depressions; in landscape positions below those of the Newberry soil

Properties and Qualities of the Newberry Soil

Parent material: Loess and/or silty mixed loess and drift over weathered till
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: More than 80 inches (moderate sodium content within a depth of 30 inches)
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Oconee Series

Taxonomic classification: Fine, smectitic, mesic Udollic Endoaqualfs

Typical Pedon

Oconee silt loam, 2 to 5 percent slopes, at an elevation of 560 feet above mean sea level; Madison County, Illinois; 1,315 feet east and 2,245 feet north of the southwest corner of sec. 29, T. 5 N., R. 5 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 51 minutes 01.8 seconds N. and long. 89 degrees 41 minutes 15.8 seconds W.; UTM Zone 16S, 0266759 easting 4303618 northing; NAD 83.

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure grading to weak thin platy in the lower part; very friable; common very fine roots; common very fine tubular pores within peds; few fine rounded black (10YR 2/1) nodules of iron-manganese with sharp boundaries throughout; slightly acid; abrupt smooth boundary.
E1—8 to 12 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; moderate thick platy structure; very friable; few very fine roots; few very fine tubular pores within peds; many distinct brown (10YR 5/3) clay depletions in pores; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; few fine and medium irregular very dark gray (5YR 3/1) nodules of iron-manganese with sharp boundaries throughout; moderately acid; clear smooth boundary.
E2—12 to 16 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate fine and medium subangular blocky structure; friable; few very fine roots; common very fine pores within and between peds; many distinct brown (10YR 5/3) clay depletions in pores; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine and medium rounded dark brown (7.5YR 3/2) nodules of iron-manganese with clear boundaries throughout; moderately acid; clear smooth boundary.
Bt/E—16 to 21 inches; brown (10YR 5/3) silty clay loam (Bt); strong very fine subangular blocky structure; firm; few very fine roots; common fine pores in the

silty material between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds and many prominent light brownish gray (10YR 6/2) clay depletions on faces of peds and in pores (E); many medium prominent strong brown (7.5YR 5/6) masses of oxidized iron and few fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; few fine and medium rounded dark brown (7.5YR 3/2) nodules of iron-manganese with clear boundaries throughout; strongly acid; clear irregular boundary.

Bt—21 to 29 inches; brown (10YR 5/3) silty clay; moderate medium prismatic structure parting to strong fine and medium angular blocky; very firm; few very fine roots between peds; few fine pores between peds; many prominent dark grayish brown (10YR 4/2) clay films on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium rounded black (5YR 2.5/1) nodules of iron-manganese with sharp boundaries throughout; strongly acid; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots between peds; few fine pores between peds; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) and common coarse prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; common fine and medium rounded black (5YR 2.5/1) nodules of iron-manganese with sharp boundaries; strongly acid; clear smooth boundary.

Btg2—38 to 47 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; few fine pores between peds; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium prominent light olive brown (2.5Y 5/6), common medium prominent yellowish brown (10YR 5/8), and few medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine and medium irregular black (5YR 2.5/1) nodules of iron-manganese with clear strong brown (7.5YR 5/6) boundaries throughout; moderately acid; clear smooth boundary.

Btg3—47 to 58 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine pores between peds; many prominent very dark grayish brown (10YR 3/2) organic coatings on surfaces along root channels and filling pores; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium and coarse prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium irregular black (5YR 2.5/1) nodules of iron-manganese with clear strong brown (7.5YR 5/6) boundaries throughout; moderately acid; clear smooth boundary.

C1—58 to 65 inches; brown (10YR 5/3) silt loam; massive; friable; few vertical cleavage planes; few fine vesicular pores; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of cleavage planes; many medium prominent yellowish brown (10YR 5/8) and common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine and medium irregular black (5YR 2.5/1) nodules of iron-manganese with clear strong brown (7.5YR 5/6) boundaries throughout; slightly acid; gradual smooth boundary.

C2—65 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common fine and medium vesicular pores; few prominent very dark grayish brown (10YR 3/2) organic coatings on surfaces along root channels and pores; few fine distinct grayish brown (10YR 5/2) iron depletions and few medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few medium irregular

black (10YR 2/1) nodules of iron-manganese with sharp boundaries throughout; neutral.

Range in Characteristics

Thickness of the mollic layer: 7 to 9 inches
Thickness of the loess: More than 55 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 42 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

E horizon:
Hue—10YR
Value—4 to 7
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Bt, Btg, or BCtg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam, silty clay, or silt loam
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

C or Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 8
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

2C or 2Cg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 8
Texture—silt loam or loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

113A—Oconee silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains
Position on the landform: Summits

Map Unit Composition

Oceee and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soil that have less clay in the subsoil

Dissimilar soils:
- The very poorly drained Shiloh soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: 0.5 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

113B—Oconee silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines, knolls
Position on the landform: Shoulders, backslopes, summits

Map Unit Composition

Oconee and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that have a dark surface layer

Dissimilar soils:
- The very poorly drained Shiloh soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess over silty mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: 0.5 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

802D—Orthents, loamy, 2 to 20 percent slopes

Setting

Landform: Sand pits, gravel pits, fill areas

Map Unit Composition

Orthents and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- The well drained Hickory soils in the steeper areas

Dissimilar soils:
- The somewhat poorly drained Shoals and well drained Stonelick soils in frequently flooded areas
- The poorly drained Drummer soils in swales

Properties and Qualities of the Orthents

Parent material: Earthy cut and fill
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 3.3 feet, February through April

Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Petrolia Series

Taxonomic classification: Fine-silty, mixed, superactive, nonacid, mesic Fluvaquentic Endoaquepts

Typical Pedon

Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 459 feet above mean sea level; Clay County, Illinois; 500 feet south and 235 feet east of the northwest corner of sec. 17, T. 5 N., R. 6 E.; USGS Hord, Illinois, topographic quadrangle; lat. 38 degrees 53 minutes 02.4 seconds N. and long. 88 degrees 33 minutes 45.4 seconds W.; UTM Zone 16S, 0364466 easting 4305064 northing; NAD 83.

Ap1—0 to 6 inches; dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; common very fine roots; few fine rounded nodules of iron-manganese throughout; neutral; abrupt smooth boundary.

Ap2—6 to 14 inches; dark gray (10YR 4/1) silty clay loam, light brownish gray (10YR 6/2) dry; weak fine prismatic structure parting to weak fine angular blocky; firm; common very fine roots; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron and common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine rounded nodules of iron-manganese throughout; neutral; abrupt wavy boundary.

Bg1—14 to 25 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure; firm; few very fine roots; common distinct gray (10YR 5/1) pressure faces; common fine prominent strong brown (7.5YR 4/6) masses of oxidized iron and common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine rounded nodules of iron-manganese throughout; slightly acid; clear wavy boundary.

Bg2—25 to 43 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure; firm; few very fine roots; few distinct gray (10YR 5/1) pressure faces; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium rounded nodules of iron-manganese throughout; slightly acid; abrupt wavy boundary.

Bg3—43 to 60 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium prismatic structure; firm; few very fine roots; few distinct gray (10YR 5/1) pressure faces; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium rounded nodules of iron-manganese throughout; slightly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: More than 60 inches
Depth to the base of the cambic horizon: 30 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam
Content of rock fragments—0 to 2 percent
Reaction—moderately acid to neutral

Bg, Btg, BCg, or BCtg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam
Content of rock fragments—0 to 2 percent
Reaction—moderately acid to neutral

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam; or silt loam with some thin strata of silty clay, loam, or fine sandy loam
Content of rock fragments—0 to 2 percent
Reaction—slightly acid to slightly alkaline

3288A—Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Petrolia and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil or substratum
- Soils that are very deep to bedrock
- Soils that are subject to occasional flooding
- Soils that have a surface layer of clay loam or silt loam overwash

Dissimilar soils:
- The well drained Channahon soils on bedrock terraces
- The well drained Jules and Stonelick soils on rises; in landscape positions above those of the Petrolia soil

Properties and Qualities of the Petrolia Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Pierron Series

Taxonomic classification: Fine, smectitic, mesic Typic Albaqualfs

Typical Pedon

Pierron silt loam, 0 to 2 percent slopes, at an elevation of 509 feet above mean sea level; Crawford County, Illinois; 1,233 feet south and 102 feet west of the northeast corner of sec. 15, T. 7 N., R. 12 W.; USGS Hutsonville, Illinois, topographic quadrangle; lat. 39 degrees 03 minutes 19.7 seconds N. and long. 87 degrees 43 minutes 18.4 seconds W.; UTM Zone 16S, 0437548 easting 4323180 northing; NAD 83.

Ap—0 to 12 inches; dark grayish brown (10YR 4/2) silt loam; moderate thin and medium platy structure; friable; many very fine and fine roots; many very fine and fine pores; few fine and medium distinct dark yellowish brown (10YR 3/4) and dark brown (7.5YR 3/4) masses of oxidized iron and manganese in the matrix; slightly acid; clear smooth boundary.

E—12 to 21 inches; 80 percent light brownish gray (2.5Y 6/2) and 20 percent grayish brown (2.5Y 5/2) silt loam; moderate medium and thick platy structure; firm; common very fine roots; moderate fine and medium pores; few distinct white (10YR 8/1) (dry) silt coatings on faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few medium prominent dark brown (7.5YR 3/4) masses of oxidized iron and manganese in the matrix; few fine prominent black (10YR 2/1) extremely weakly cemented iron-manganese accumulations in the matrix; moderately acid; abrupt smooth boundary.

Btg1—21 to 28 inches; grayish brown (10YR 5/2) silty clay; strong medium prismatic structure parting to strong fine angular blocky; firm; common very fine roots; few very fine and fine pores; very many faint dark gray (10YR 4/1) clay films on faces

of peds; very few distinct very dark brown (10YR 2/2) organo-clay films on faces of peds; common fine prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; many medium faint light olive brown (2.5Y 5/3) masses of oxidized iron and manganese in the matrix; few fine and medium distinct black (10YR 2/1) extremely weakly cemented iron-manganese accumulations in the matrix; strongly acid; clear wavy boundary.

Btg2—28 to 36 inches; grayish brown (10YR 5/2) silty clay; strong fine and medium prismatic structure parting to strong fine angular blocky; very firm; few very fine roots; few very fine pores; very many faint dark gray (10YR 4/1) clay films on faces of peds; very few prominent very dark gray (10YR 3/1) organo-clay films on surfaces along pores; few fine gray (2.5Y 6/1) iron depletions in the matrix; common fine prominent yellowish brown (10YR 5/8 and 5/6) masses of oxidized iron in the matrix; common medium brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; few fine prominent black (2.5Y 2.5/1) extremely weakly cemented iron-manganese accumulations in the matrix; moderately acid; gradual wavy boundary.

Btg3—36 to 45 inches; grayish brown (2.5Y 5/2) silty clay loam; strong medium prismatic structure; very firm; few very fine roots; few very fine pores; many faint dark gray (10YR 4/1) clay films on faces of peds; very few prominent very dark gray (10YR 3/1) organo-clay films on surfaces along pores; many fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; many medium distinct yellowish brown (10YR 5/4) and faint light olive brown (2.5Y 5/3) masses of oxidized iron and manganese in the matrix; few fine and medium prominent black (10YR 2/1) extremely weakly cemented iron-manganese accumulations in the matrix; slightly acid; gradual wavy boundary.

Btg4—45 to 63 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium and coarse prismatic structure; very firm; few very fine roots; few very fine pores; few faint dark gray (10YR 4/1) clay films on faces of peds; very few prominent very dark gray (10YR 3/1) organo-clay films on surfaces along pores; many fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; many medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron and manganese in the matrix; slightly acid; gradual wavy boundary.

2Btgb1—63 to 77 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate very coarse prismatic structure; extremely firm; few very fine pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; very few prominent very dark gray (10YR 3/1) organo-clay films on surfaces along pores; common fine prominent brownish yellow (10YR 6/8) and common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium faint light olive brown (2.5Y 5/3) and brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; few fine prominent black (10YR 2/1) extremely weakly cemented iron-manganese accumulations in the matrix; few fine prominent black (2.5Y 2.5/1) nodules of iron-manganese throughout; 1 percent subrounded fine gravel; slightly acid; gradual wavy boundary.

3Btgb2—77 to 91 inches; grayish brown (10YR 5/2) clay loam; moderate very coarse prismatic structure; extremely firm; few very fine pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; very few prominent very dark gray (10YR 3/1) organo-clay films on surfaces along pores; few fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine and medium prominent dark yellowish brown (10YR 4/6) and faint light yellowish brown (2.5Y 6/3) masses of oxidized iron and manganese in the matrix; common fine prominent black (2.5Y 2.5/1) nodules of iron-manganese throughout; 3 percent subangular fine gravel; neutral.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 55 to 80 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 50 to 80 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Eg horizon (where present):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—extremely acid to slightly acid

BCg or BCtg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

Cg horizon (where present):
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 7
Chroma—0 to 2
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—strongly acid to neutral

2Btgb, 2BCtg, 2BCg, 2Cg, 3Btgb, or 3Cg horizon:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 7
Chroma—0 to 2
Texture—clay loam, loam, or silty clay loam
Content of rock fragments—none
Reaction—strongly acid to neutral

31A—Pierron silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains, depressions, ground moraines
Position on the landform: Summits

Map Unit Composition

Pierron and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The somewhat poorly drained Stoy soils in the slightly higher landscape positions
- The somewhat poorly drained Atlas and Blair soils in moderately steep areas

Properties and Qualities of the Pierron Soil

Parent material: Loess over silty mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow to moderately slow
Depth to restrictive feature: 14 to 24 inches to abrupt textural change
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

864—Pits, quarries

- This map unit consists of areas from which crushed limestone, gravel, and agricultural lime are being quarried.

Interpretive Groups

Land capability classification: 8
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

865—Pits, gravel

- This map unit consists of nearly level and gently sloping areas from which gravel has been extracted. The pits have nearly vertical sidewalls. Some pits are active, and others have been abandoned. Some contain water.

Interpretive Groups

Land capability classification: 8
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Racoon Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaqualfs

Typical Pedon

Racoon silt loam, 0 to 2 percent slopes, at an elevation of 425 feet above mean sea level; Saline County, Illinois; about 1 mile southeast of West End; 135 feet north and 2,095 feet east of the center of sec. 30, T. 7 S., R. 5 E.; USGS Akin, Illinois, topographic quadrangle; lat. 37 degrees 53 minutes 07.2 seconds N. and long. 88 degrees 41 minutes 25.3 seconds W.; UTM Zone 16S, 0351356 easting 4194441 northing; NAD 83.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; common very fine very dark grayish brown (10YR 3/2) extremely weakly cemented iron-manganese accumulations throughout; neutral; abrupt smooth boundary.

Eg1—6 to 10 inches; dark grayish brown (10YR 4/2) silt loam; weak thin platy structure; firm; common very dark grayish brown (10YR 3/2) extremely weakly cemented iron-manganese accumulations throughout; neutral; abrupt smooth boundary.

Eg2—10 to 14 inches; dark grayish brown (10YR 4/2) silt loam; weak medium platy structure parting to weak fine granular; friable; common fine faint grayish brown (10YR 5/2) and few fine distinct light gray (10YR 7/1) clay depletions in the matrix; common very fine very dark grayish brown (10YR 3/2) extremely weakly cemented iron-manganese accumulations throughout; strongly acid; clear smooth boundary.

Eg3—14 to 30 inches; gray (10YR 6/1) silt loam; weak medium platy structure parting to weak fine granular; friable; common very fine tubular pores; few grayish brown (10YR 5/2) krotovinas; common medium prominent yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; many fine and very fine black (10YR 2/1) extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; clear smooth boundary.

Btg1—30 to 37 inches; gray (10YR 6/1) silty clay loam; weak medium prismatic structure parting to weak fine subangular blocky; firm; few very fine tubular pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; common fine black concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

Btg2—37 to 47 inches; gray (10YR 6/1) silty clay loam; moderate medium prismatic structure parting to weak medium subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron and few fine faint light gray

(10YR 7/1) clay depletions in the matrix; common fine black concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

Btg3—47 to 59 inches; gray (10YR 6/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few faint gray (10YR 5/1) and common prominent dark olive gray (5Y 3/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron and brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine black concretions of iron-manganese throughout; strongly acid; clear smooth boundary.

Cg—59 to 73 inches; gray (5Y 6/1) and gray (10YR 6/1) silt loam; massive; friable; many coarse distinct grayish brown (10YR 5/2) iron depletions and many coarse prominent brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; slightly acid; neutral in the lower part.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: More than 32 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 40 to 80 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 to 6
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—0 to 2 percent
Reaction—very strongly acid to neutral

Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—0 to 2 percent
Reaction—very strongly acid to neutral

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 7
Chroma—0 to 2
Texture—dominantly silty clay loam; silt loam in individual subhorizons in some pedons
Content of rock fragments—0 to 2 percent
Reaction—very strongly acid or strongly acid

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam or loam
Content of rock fragments—0 to 2 percent
Reaction—moderately acid to neutral

109A—Racoon silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions on till plains

Map Unit Composition

Racoon and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a brittle subsoil
- Soils that have more clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils and the well drained Hickory soils in sloping areas; in landscape positions below those of the Racoon soil
- Soils that are subject to frequent flooding

Properties and Qualities of the Racoon Soil

Parent material: Mixture of loess and local silty alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Ridgway Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Ridgway silt loam, 0 to 2 percent slopes, at an elevation of 361 feet above mean sea level; White County, Illinois; about 7 miles east-northeast of New Haven; 900 feet west and 354 feet south of the northeast corner of sec. 1, T. 7 S., R. 10 E.; USGS Emma, Illinois, topographic quadrangle; lat. 37 degrees 56 minutes 59.6 seconds N. and long. 88 degrees 02 minutes 48.6 seconds W.; UTM Zone 16S, 0408027 easting 4200771 northing; NAD 83.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; common very fine roots; neutral; abrupt smooth boundary.

BE—10 to 14 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) silt coatings on faces of peds; neutral; clear smooth boundary.

Bt1—14 to 22 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; neutral; gradual smooth boundary.

Bt2—22 to 30 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; slightly acid; clear smooth boundary.

2Bt3—30 to 39 inches; yellowish brown (10YR 5/6) clay loam; weak coarse subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt4—39 to 49 inches; strong brown (7.5YR 4/6) sandy loam; weak coarse subangular blocky structure; very friable; few distinct brown (7.5YR 4/4) clay films on faces of peds; moderately acid; gradual smooth boundary.

2E and Bt—49 to 80 inches; yellowish brown (10YR 5/6) loamy sand (E); lamellae of brown (7.5YR 4/4) sandy loam (Bt); weak very thick platy structure; very friable (E); weak very fine subangular blocky structure; very friable (Bt); few distinct brown (7.5YR 4/4) clay bridges between sand grains (Bt); moderately acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 24 to 40 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 50 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E, BE, or EB horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam or silty clay loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

2Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, sandy clay loam, loam, or sandy loam
Content of rock fragments—0 to 10 percent
Reaction—very strongly acid to slightly acid

2C horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified loam, sandy loam, loamy sand, or sand
Content of rock fragments—0 to 10 percent
Reaction—strongly acid to neutral

434A—Ridgway silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Summits

Map Unit Composition

Ridgway and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have a dark surface layer
- Soils that have more clay in the subsoil
- Soils that have more sand or gravel in the substratum

Dissimilar soils:
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Ridgway soil
- The somewhat poorly drained Whitaker soils on terraces; in landscape positions below those of the Ridgway soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Ridgway Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High

Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

434B—Ridgway silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Shoulders

Map Unit Composition

Ridgway and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have a dark surface layer
- Soils that have more clay in the subsoil
- Soils that have more sand or gravel in the substratum
- Soils that are eroded

Dissimilar soils:
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Ridgway soil
- The somewhat poorly drained Whitaker soils on terraces; in landscape positions below those of the Ridgway soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Ridgway Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

434D2—Ridgway silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Backslopes

Map Unit Composition

Ridgway and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have more sand or gravel in the substratum
- Soils that are severely eroded

Dissimilar soils:
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Ridgway soil
- The somewhat poorly drained Whitaker soils on terraces; in landscape positions below those of the Ridgway soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Ridgway Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

7434B—Ridgway silt loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Shoulders

Map Unit Composition

Ridgway and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have a dark surface layer
- Soils that have more clay in the subsoil
- Soils that have more sand or gravel in the substratum

Dissimilar soils:
- The somewhat poorly drained Shoals soils on flood plains; in landscape positions below those of the Ridgway soil
- The somewhat poorly drained Whitaker soils on terraces; in landscape positions below those of the Ridgway soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Ridgway Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Senachwine Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Senachwine silt loam, 5 to 10 percent slopes, eroded, at an elevation of 889 feet above mean sea level; Bureau County, Illinois; 1,040 feet west and 1,345 feet south

of the northeast corner of sec. 21, T. 15 N., R. 8 E.; USGS Wyanet, Illinois, topographic quadrangle; lat. 41 degrees 16 minutes 25.5 seconds N. and long. 89 degrees 34 minutes 18.4 seconds W.; UTM Zone 16T, 0284599 easting 4572335 northing; NAD 83.

Ap—0 to 6 inches; mixed brown (10YR 4/3) and yellowish brown (10YR 5/4) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.

Bt1—6 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt2—15 to 28 inches; brown (7.5YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many faint brown (7.5YR 4/4) clay films on faces of peds; few fine rounded black (N 2.5/) weakly cemented concretions of iron-manganese throughout; neutral; clear smooth boundary.

2BCt—28 to 34 inches; brown (7.5YR 5/4) loam; weak coarse prismatic structure; firm; few fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2C—34 to 60 inches; brown (7.5YR 5/4) loam; massive; firm; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: Less than 18 inches
Depth to carbonates: 20 to 40 inches
Depth to the base of the argillic horizon: 24 to 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam; clay loam in severely eroded pedons
Content of rock fragments—0 to 3 percent
Reaction—moderately acid to neutral

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—0 to 3 percent
Reaction—moderately acid to neutral

Bt or 2Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam, clay loam, or loam
Content of rock fragments—1 to 10 percent
Reaction—strongly acid to neutral

BC, BCt, 2BCt, or 2BC horizon (where present):
Colors—similar to those of the B horizon
Texture—similar to that of the C horizon
Reaction—similar to that of the C horizon

C or 2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—clay loam or loam
Content of rock fragments—1 to 10 percent
Reaction—slightly alkaline or moderately alkaline

618C2—Senachwine silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines, end moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have less sand in the subsoil
- Soils that have more sand in the substratum
- Soils that are deep to carbonates
- Soils that are severely eroded

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains
- The poorly drained Drummer soils in swales; in landscape positions below those of the Senachwine soil

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

618C3—Senachwine clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: End moraines, ground moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have more sand in the substratum
- Soils that are deep to carbonates
- Soils that are less eroded
- Soils that have a surface layer of silt loam or silty clay loam

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains
- The poorly drained Drummer soils in swales; in landscape positions below those of the Senachwine soil

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

618D2—Senachwine silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: End moraines, ground moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have more sand in the substratum
- Soils that are deep to carbonates
- Soils that are shallow to carbonates
- Soils that are severely eroded

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains
- The poorly drained Drummer soils in swales

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

618D3—Senachwine clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: End moraines, ground moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the lower part of the subsoil
- Soils that have more sand in the substratum
- Soils that are deep to carbonates
- Soils that are less eroded
- Soils that have a surface layer of silty clay loam
- Soils that are shallow to carbonates
- Soils that are steep

Dissimilar soils:
- The somewhat poorly drained Brouillett soils on flood plains
- The poorly drained Drummer soils in swales

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Sexton Series

Taxonomic classification: Fine, smectitic, mesic Typic Endoaqualfs

Typical Pedon

Sexton silt loam, 0 to 2 percent slopes, at an elevation of 675 feet above mean sea level; Edgar County, Illinois; 150 feet north and 200 feet west of the southeast corner of sec. 18, T. 12 N., R. 13 W.; USGS Westfield East, Illinois, topographic quadrangle; lat. 39 degrees 28 minutes 58.3 seconds N. and long. 87 degrees 53 minutes 13.4 seconds W.; UTM Zone 16S, 0423713 easting 4370739 northing; NAD 83.

Ap—0 to 8 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate very fine granular structure; friable; few very fine roots; few fine

rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral; clear smooth boundary.

Eg—8 to 12 inches; light gray (10YR 6/1) silt loam; moderate thin platy structure; friable; few very fine roots; few fine distinct brown (10YR 5/3) and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron and common fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral; abrupt smooth boundary.

Btg/Eg—12 to 16 inches; grayish brown (10YR 5/2) silty clay loam (Btg) and light gray (10YR 7/1) silt loam (Eg); moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) and common faint grayish brown (10YR 5/2) clay films on faces of peds; common fine faint brown (10YR 4/3) and common fine distinct yellowish brown (10YR 5/4 and 5/6) masses of oxidized iron in the matrix; common medium rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral; clear smooth boundary.

Btg1—16 to 29 inches; gray (10YR 5/1) silty clay; moderate fine and medium prismatic structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) and common faint grayish brown (10YR 5/2) clay films and common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; common fine and medium distinct and prominent yellowish brown (10YR 5/4 and 5/6) masses of oxidized iron and common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; common fine and medium irregular black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; strongly acid; gradual smooth boundary.

Btg2—29 to 36 inches; gray (10YR 5/1) silty clay loam; moderate medium prismatic structure; firm; few very fine roots; common distinct grayish brown (2.5Y 5/2) clay films and few distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; common fine and medium distinct and prominent yellowish brown (10YR 5/4 and 5/6) masses of oxidized iron and common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; common fine and medium irregular black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; strongly acid; clear smooth boundary.

2Btg3—36 to 45 inches; light brownish gray (10YR 6/2), stratified clay loam; weak coarse prismatic structure; firm; common distinct grayish brown (2.5Y 5/2) clay films on surfaces along root channels and pores; common fine and medium prominent yellowish brown (10YR 5/8) masses of oxidized iron and common fine faint light gray (10YR 6/1) iron depletions in the matrix; common fine and medium irregular black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; moderately acid; gradual smooth boundary.

2BCtg—45 to 60 inches; mixed light brownish gray (10YR 6/2) and yellowish brown (10YR 5/4), stratified sandy loam; massive; firm; few distinct grayish brown (2.5Y 5/2) clay films on surfaces along root channels and pores; common fine and medium distinct yellowish brown (10YR 5/4 and 5/6) masses of oxidized iron and common fine faint light gray (10YR 6/1) iron depletions in the matrix; common fine and medium irregular black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; moderately acid; clear smooth boundary.

2C—60 to 78 inches; dark yellowish brown (10YR 4/6) loamy sand with strata of gray (10YR 6/1) sandy loam; weak coarse prismatic structure; very friable; few thin grayish brown (10YR 5/2) clay bridges between sand grains; common fine prominent black (10YR 2/1) masses of iron-manganese throughout; strongly acid; abrupt smooth boundary.

3Cg—78 to 90 inches; 75 percent gray (10YR 6/1) and 25 percent yellowish brown (10YR 5/6) silt loam; firm; massive; few root channels; slightly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 30 to 55 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Eg horizon:
Hue—10YR
Value—5 to 7
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Bt/Eg horizon (where present):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid to neutral

2Btg, 2BCtg, 2BCt, or 2BCg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam, loam, clay loam, or sandy clay loam; stratified in some pedons
Content of rock fragments—0 to 7 percent
Reaction—strongly acid to neutral

2Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 8
Texture—stratified silt loam, loam, sandy loam, or silty clay loam; thin lenses of loamy sand or sand in some pedons
Content of rock fragments—0 to 7 percent
Reaction—slightly acid to slightly alkaline

208A—Sexton silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Toeslopes

Map Unit Composition

Sexton and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface layer
- Soils that have more sand and silt in the subsoil

Dissimilar soils:
- The well drained Camden soils in gently sloping areas
- The well drained Ridgway soils on terraces; in landscape positions below those of the Sexton soil
- Soils that are subject to flooding
- The somewhat poorly drained Starks soils on slight rises

Properties and Qualities of the Sexton Soil

Parent material: Loess over outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow to moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Shiloh Series

Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Shiloh silty clay loam, 0 to 2 percent slopes, at an elevation of 619 feet above mean sea level; Effingham County, Illinois; 1,580 feet north and 50 feet east of the southwest corner of sec. 11, T. 8 N., R. 4 E.; USGS Shumway, Illinois, topographic

quadrangle; lat. 39 degrees 09 minutes 06.4 seconds N. and long. 88 degrees 43 minutes 43.5 seconds W.; UTM Zone 16S, 0350621 easting 4335042 northing; NAD 83.

Ap—0 to 7 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium granular and angular blocky structure; firm; common very fine and few fine roots throughout; common very fine tubular pores; slightly acid; abrupt smooth boundary.

A—7 to 19 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine angular blocky structure; firm; common very fine and few fine roots throughout; common very fine tubular pores; slightly acid; gradual smooth boundary.

BA—19 to 35 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; strong fine angular blocky structure; very firm; common very fine and few fine roots throughout; common very fine tubular pores; many distinct black (N 2.5/) pressure faces on faces of peds; slightly acid; gradual smooth boundary.

Bg1—35 to 48 inches; very dark gray (N 3/) silty clay, gray (N 5/) dry; strong fine angular blocky structure; very firm; common very fine roots throughout; common very fine tubular pores; common prominent black (10YR 2/1) pressure faces on faces of peds; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron on faces of peds and in the matrix; slightly acid; clear smooth boundary.

Bg2—48 to 60 inches; dark gray (5Y 4/1) silty clay loam; weak and moderate medium subangular blocky structure; very firm; common very fine roots throughout; common very fine tubular pores; common fine prominent light olive brown (2.5Y 5/6) and few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron on faces of peds and in the matrix; common medium prominent black (10YR 2/1) extremely weakly cemented iron-manganese accumulations in the matrix; slightly acid; clear smooth boundary.

Bg3—60 to 68 inches; gray (10YR 6/1) silty clay loam; weak medium subangular blocky structure; firm; common very fine roots throughout; common very fine tubular pores; few faint dark gray (2.5Y 4/1) clay films on faces of peds and common distinct dark gray (2.5Y 4/1) clay films on surfaces along root channels and pores; few fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron on faces of peds and in the matrix; slightly acid; abrupt smooth boundary.

2Ab—68 to 79 inches; very dark gray (2.5Y 3/1) silty clay loam; weak coarse subangular blocky structure; firm; few very fine roots throughout; common very fine tubular pores; common distinct very dark gray (2.5Y 3/1) organo-clay films on surfaces along root channels and pores; about 2 percent fine subangular rock fragments; slightly acid; clear smooth boundary.

2Btgb—79 to 86 inches; gray (10YR 6/1) clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; common very fine tubular pores; common distinct very dark gray (2.5Y 3/1) organo-clay films on faces of peds and many distinct very dark gray (2.5Y 3/1) organo-clay films on surfaces along root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron on faces of peds and in the matrix; about 2 percent fine subangular rock fragments; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 48 inches
Thickness of the loess or silty sediments: More than 60 inches
Depth to carbonates: More than 39 inches
Depth to the base of the cambic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap and A horizons:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam
Content of rock fragments—none
Reaction—slightly acid or neutral

BA, BAg, or Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 2
Texture—silty clay or silty clay loam
Content of rock fragments—none
Reaction—slightly acid or neutral

BC, BCg, or C horizon (where present):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam, silty clay, or silt loam
Content of rock fragments—none
Reaction—slightly acid to slightly alkaline

2Ab or 2Btgb horizon (where present):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 4 (2Ab); 4 to 6 (2Btgb)
Chroma—0 to 3 (2Ab); 0 to 2 (2Btgb)
Texture—clay loam, clay, silty clay, or silty clay loam
Content of rock fragments—0 to 10 percent
Reaction—slightly acid to slightly alkaline (2Ab); slightly acid or neutral (2Btgb)

138A—Shiloh silty clay loam, 0 to 2 percent slopes

Setting

Landform: Depressions on till plains

Map Unit Composition

Shiloh and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a surface layer of silt loam
- Soils that have less clay in the subsoil
- Soils that have a thin dark surface layer
- Soils that have more sand in the substratum

Dissimilar soils:
- The somewhat poorly drained Bluford, Hoyleton, and Oconee soils on slight rises

Properties and Qualities of the Shiloh Soil

Parent material: Loess or silty and clayey colluvium over paleo accretionary deposits and/or till
Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through June
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Shoals Series

Taxonomic classification: Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts

Typical Pedon

Shoals silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 567 feet above mean sea level; Edgar County, Illinois; 600 feet north and 250 feet east of the southwest corner of sec. 10, T. 12 N., R. 11 W.; USGS Marshall, Illinois, topographic quadrangle; lat. 39 degrees 29 minutes 34.1 seconds N. and long. 87 degrees 37 minutes 42.0 seconds W.; UTM Zone 16S, 0445971 easting 4371656 northing; NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, light yellowish brown (10YR 6/4) dry; moderate fine granular structure; friable; many very fine roots; neutral; clear smooth boundary.

Bw—8 to 17 inches; brown (10YR 4/3) silt loam; weak coarse subangular blocky structure parting to moderate thin and medium platy; friable; common very fine roots; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; common fine irregular and rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral; gradual wavy boundary.

Bg—17 to 37 inches; grayish brown (10YR 5/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; few faint brown (10YR 4/3) organic coatings on surfaces along root channels and pores; many fine prominent strong brown (7.5YR 4/6) masses of oxidized iron and few fine faint brown (10YR 5/3) masses of iron-manganese oxides in the matrix; few fine irregular and rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral; gradual wavy boundary.

Cg—37 to 60 inches; gray (10YR 6/1) loam; massive; friable; few very fine roots; common medium distinct brown (10YR 5/3) masses of iron-manganese oxides and few medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine irregular and rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: More than 20 inches
Depth to the base of the cambic horizon: 20 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—0 to 3 percent
Reaction—neutral

Bw, BA, or Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—loam or silt loam
Content of rock fragments—0 to 3 percent
Reaction—neutral or slightly alkaline

Cg or C horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 6
Texture—commonly stratified with loam, silt loam, sandy loam, fine sandy loam, or clay loam
Content of rock fragments—0 to 14 percent
Reaction—neutral or slightly alkaline

3424A—Shoals silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Shoals and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand in the subsoil and substratum
- Soils that are subject to occasional flooding
- Soils that have a surface layer of loam
- Soils that have a dark surface layer
- Soils that are more developed

Dissimilar soils:
- Soils that are deep to bedrock
- The well drained Ridgway soils; in landscape positions above those of the Shoals soil

- The well drained, steep Hickory soils in landscape positions above those of the Shoals soil
- The poorly drained Petrolia soils in swales

Properties and Qualities of the Shoals Soil

Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Depth and months of highest apparent seasonal high water table: 0.5 foot, January through May
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Starks Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Taxadjunct features: The Starks soils in this survey area are less gray in the upper part of the subsoil than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Aquic Hapludalfs.

Typical Pedon

Starks silt loam, 0 to 2 percent slopes, at an elevation of 656 feet above mean sea level; Coles County, Illinois; about 1$^1/_2$ miles west of Etna; 600 feet east and 1,300 feet north of the southwest corner of sec. 17, T. 11 N., R. 7 E.; USGS Mattoon West, Illinois, topographic quadrangle; lat. 39 degrees 23 minutes 30.0 seconds N. and long. 88 degrees 27 minutes 03.5 seconds W.; UTM Zone 16S, 0375046 easting 4361249 northing; NAD 83.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate very fine granular structure; friable; slightly acid; abrupt smooth boundary.

E—8 to 13 inches; brown (10YR 5/3) silt loam; moderate thin platy structure parting to moderate very fine granular; friable; common distinct light brownish gray (10YR 6/2) and light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; moderately acid; clear smooth boundary.

Bt1—13 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; weak fine prismatic structure parting to moderate fine and medium subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron and few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; few fine rounded dark extremely weakly cemented iron-manganese accumulations throughout; moderately acid; clear smooth boundary.

Bt2—21 to 26 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; common distinct grayish brown (10YR 5/2) clay films on faces of peds; common distinct gray (10YR 6/1) (dry) silt coatings on faces of peds; many fine prominent yellowish brown (10YR 5/8) masses of oxidized iron and common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; few fine rounded dark extremely weakly cemented iron-manganese accumulations throughout; moderately acid; clear smooth boundary.

Btg1—26 to 36 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; very few distinct gray (10YR 6/1) (dry) silt coatings on faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine rounded dark extremely weakly cemented iron-manganese accumulations throughout; moderately acid; clear smooth boundary.

2Btg2—36 to 44 inches; grayish brown (10YR 5/2) sandy loam; moderate coarse subangular blocky structure; firm; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine rounded dark extremely weakly cemented iron-manganese accumulations throughout; 3 percent gravel; moderately acid; clear smooth boundary.

2C—44 to 60 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; firm; common rounded dark extremely weakly cemented iron-manganese accumulations throughout; neutral.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 24 to 40 inches
Depth to carbonates: 40 to 70 inches
Depth to the base of the argillic horizon: More than 35 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

E horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—2 or 3
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Bt, Btg, or Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

2Bt, 2Btg, 2BC, BCtg, or 2BCg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—clay loam, loam, or sandy loam
Content of rock fragments—0 to 5 percent
Reaction—strongly acid to slightly alkaline

2C or 2Cg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified sandy loam, loam, silt loam, and sandy clay loam
Content of rock fragments—0 to 15 percent
Reaction—strongly acid to slightly alkaline

132A—Starks silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces, outwash plains
Position on the landform: Footslopes, summits

Map Unit Composition

Starks and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the upper part of the subsoil
- Soils that have a gravelly substratum
- Soils that have a dark surface layer
- Soils that are gently sloping

Dissimilar soils:
- The well drained Camden and Ridgway soils in gently sloping areas; in landscape positions above those of the Starks soil
- The poorly drained Drummer and Brooklyn soils in swales

Properties and Qualities of the Starks Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate

Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Stockland Series

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Pachic Hapludolls

Typical Pedon

Stockland gravelly sandy loam, 0 to 2 percent slopes, rarely flooded, at an elevation of 458 feet above mean sea level; Clark County, Illinois; 1,350 feet north and 560 feet east of the southwest corner of sec. 27, T. 10 N., R. 11 W.; USGS Snyder, Illinois, topographic quadrangle; lat. 39 degrees 16 minutes 39.4 seconds N. and long. 87 degrees 37 minutes 36.5 seconds W.; UTM Zone 16S, 0445935 easting 4347772 northing; NAD 83.

Ap—0 to 8 inches; very dark gray (10YR 3/1) gravelly sandy loam, dark gray (10YR 4/1) dry; moderate fine granular structure; very friable; few very fine roots throughout; few very fine tubular pores; very many faint very dark gray (10YR 3/1) organic coatings on faces of peds; about 15 percent rounded rock fragments less than 3 inches in diameter; moderately acid; clear smooth boundary.

A—8 to 14 inches; very dark gray (10YR 3/1) gravelly coarse sandy loam, dark grayish brown (10YR 4/2) dry; moderate fine and very fine granular structure; very friable; few very fine roots throughout; few very fine tubular pores; very many faint very dark gray (10YR 3/1) organic coatings on faces of peds; about 20 percent rounded rock fragments less than 3 inches in diameter; moderately acid; clear smooth boundary.

BA—14 to 24 inches; very dark gray (10YR 3/1) very gravelly coarse sandy loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; common very fine roots throughout; few very fine tubular pores; common faint very dark gray (10YR 3/1) organic coatings on faces of peds and many distinct very dark gray (10YR 3/1) organo-clay bridges between sand grains; about 45 percent rounded rock fragments less than 3 inches in diameter; moderately acid; clear wavy boundary.

Bt1—24 to 32 inches; dark brown (10YR 3/3) very gravelly coarse sandy loam; weak medium subangular blocky structure parting to moderate fine granular; friable; few very fine roots throughout; few very fine tubular pores; very many distinct dark brown (10YR 3/3) organo-clay bridges between sand grains; about 50 percent rounded rock fragments less than 3 inches in diameter; moderately acid; gradual wavy boundary.

Bt2—32 to 44 inches; dark brown (7.5YR 3/3) very gravelly coarse sandy loam; weak coarse subangular blocky structure; very friable; many fine interstitial pores; very

many distinct dark brown (7.5YR 3/3) organo-clay bridges between sand grains; about 50 percent rounded rock fragments less than 3 inches in diameter; slightly acid; gradual wavy boundary.

BCt—44 to 60 inches; dark brown (7.5YR 3/3) very gravelly loamy coarse sand; weak medium granular structure; very friable; many very fine and fine interstitial pores; common distinct dark brown (7.5YR 3/3) organo-clay films on top surfaces of rock fragments; common distinct dark brown (7.5YR 3/3) organo-clay bridging between sand grains; few faint dark brown (7.5YR 3/3) organic films on faces of peds; about 50 percent rounded rock fragments less than 3 inches in diameter; slightly acid; clear wavy boundary.

C—60 to 80 inches; brown (10YR 5/3) very gravelly coarse sand; single grain; loose; many very fine and fine interstitial pores; very few faint brown (7.5YR 4/3) clay bridges between sand grains; about 55 percent rounded rock fragments less than 3 inches in diameter; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 20 to 34 inches
Depth to carbonates: More than 30 inches
Depth to the base of the cambic horizon: More than 30 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—gravelly sandy loam
Content of rock fragments—15 to 35 percent
Reaction—strongly acid to neutral

BA horizon:
Hue—7.5YR or 10YR
Value—2 to 3
Chroma—1 to 3
Texture of the fine-earth fraction—the gravelly or very gravelly analogs of loam, sandy loam, or coarse sandy loam
Content of rock fragments—15 to 50 percent
Reaction—strongly acid to neutral

Bw or Bt horizon:
Hue—5YR, 7.5YR, or 10YR
Value—3 to 5
Chroma—2 to 4
Texture—the gravelly or very gravelly analogs of coarse sandy loam or sandy loam
Content of rock fragments—35 to 50 percent; 15 to 60 percent in individual subhorizons in some pedons
Reaction—very strongly acid to neutral

C horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—3 to 6
Texture—gravelly or very gravelly coarse sand or loamy coarse sand
Content of rock fragments—25 to 60 percent
Reaction—slightly alkaline or moderately alkaline

7155A—Stockland gravelly sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Summits

Map Unit Composition

Stockland and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less gravel in the subsoil

Dissimilar soils:
- The somewhat poorly drained Shoals and Tice soils on flood plains
- The poorly drained Ambraw and Darwin soils on flood plains

Properties and Qualities of the Stockland Soil

Parent material: Gravelly outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

7155B—Stockland gravelly sandy loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Shoulders

Map Unit Composition

Stockland and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less gravel in the subsoil
- Soils that are eroded

Dissimilar soils:
- The somewhat poorly drained Shoals soils on flood plains
- The poorly drained Ambraw and Darwin soils on flood plains

Properties and Qualities of the Stockland Soil

Parent material: Gravelly outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

7155C—Stockland gravelly sandy loam, 5 to 10 percent slopes, rarely flooded

Setting

Landform: Stream terraces, outwash terraces
Position on the landform: Backslopes

Map Unit Composition

Stockland and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less gravel in the subsoil
- Soils that are eroded

Dissimilar soils:
- The somewhat poorly drained Shoals and Tice soils on flood plains
- The poorly drained Ambraw and Darwin soils on flood plains

Properties and Qualities of the Stockland Soil

Parent material: Gravelly outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Stonelick Series

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents

Typical Pedon

Stonelick loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 435 feet above mean sea level; Crawford County, Illinois; 255 feet south and 300 feet west of the northeast corner of sec. 13, T. 7 N., R. 11 W.; USGS Merom, Illinois, topographic quadrangle; lat. 39 degrees 03 minutes 23.4 seconds N. and long. 87 degrees 34 minutes 29.7 seconds W.; UTM Zone 16S, 0450257 easting 4323205 northing; NAD 83.

Ap—0 to 14 inches; dark grayish brown (10YR 4/2) loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; common very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
C1—14 to 25 inches; dark grayish brown (10YR 4/2) loam; moderate fine subangular blocky structure; friable; many very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
C2—25 to 33 inches; brown (10YR 4/3) fine sandy loam; weak fine subangular blocky structure; very friable; common very fine roots; slightly effervescent; slightly alkaline; gradual smooth boundary.
C3—33 to 47 inches; yellowish brown (10YR 5/4) loamy fine sand; single grain; loose; common very fine roots; slightly effervescent; slightly alkaline; gradual smooth boundary.
C4—47 to 55 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; very friable; common very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
C5—55 to 60 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; common very fine roots; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: At the surface and extending throughout the profile
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—loam
Content of rock fragments—0 to 5 percent
Reaction—slightly alkaline or moderately alkaline

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 4
Texture—stratified loam, silt loam, sandy loam, fine sandy loam, sand, or loamy sand
Content of rock fragments—0 to 5 percent
Reaction—slightly alkaline or moderately alkaline

3665A—Stonelick loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Stonelick and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that are not calcareous
- Soils that are very deep to bedrock
- Soils that are subject to occasional flooding
- Soils that have a surface layer of loamy sand, sandy loam, or loam

Dissimilar soils:
- The somewhat poorly drained Shoals and Tice soils in swales
- The well drained, steep Hickory soils in landscape positions above those of the Stonelick soil
- The poorly drained Petrolia soils in swales

Properties and Qualities of the Stonelick Soil

Parent material: Calcareous loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

8665A—Stonelick fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood-plain steps, flood plains

Map Unit Composition

Stonelick and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that are not calcareous
- Soils that contain more clay in the surface layer and subsoil
- Soils that are subject to frequent flooding
- Soils that are very deep to bedrock

Dissimilar soils:
- The somewhat poorly drained Shoals and Tice soils in swales
- The well drained, steep Hickory soils in landscape positions above those of the Stonelick soil
- The poorly drained Petrolia soils in swales

Properties and Qualities of the Stonelick Soil

Parent material: Calcareous loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Occasional, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete

Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Stoy Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fragiaquic Hapludalfs

Typical Pedon

Stoy silt loam, in a nearly level cultivated field at an elevation of about 389 feet above mean sea level; Gallatin County, Illinois; approximately 2 miles southwest of Omaha; about 1,320 feet east of the southwest corner of sec. 28, T. 7 S., R. 8 E.; USGS Norris City, Illinois, topographic quadrangle; lat. 37 degrees 52 minutes 45 seconds N. and long. 88 degrees 19 minutes 58 seconds W.; UTM Zone 16, 0382795 easting 4193237 northing; NAD 83.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many roots; few fine concretions of iron-manganese throughout; very strongly acid; abrupt smooth boundary.

E1—6 to 9 inches; mixed light yellowish brown (10YR 6/4) and yellowish brown (10YR 5/4) silt loam; weak thin platy structure parting to weak fine granular; friable; common roots; common very dark grayish brown (10YR 3/2) organic coatings; few medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; many fine concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

E2—9 to 13 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium granular structure; friable; common roots; common medium distinct light brownish gray (10YR 6/2) iron depletions and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

BE—13 to 16 inches; yellowish brown (10YR 5/6) silty clay loam; weak fine and medium subangular blocky structure; friable; common roots; few medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; many fine concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

Bt1—16 to 24 inches; yellowish brown (10YR 5/8) silty clay loam; moderate fine subangular blocky structure; firm; common roots; common prominent brown (10YR 4/3) clay films on faces of peds; common prominent light brownish gray (10YR 6/2) clay depletions on faces of peds, light gray (10YR 7/1) dry; few fine prominent light brownish gray (10YR 6/2) and brown (10YR 5/3) iron depletions in the matrix; many fine concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

Bt2—24 to 27 inches; yellowish brown (10YR 5/8 and 5/4) silty clay loam; moderate coarse subangular blocky structure parting to moderate fine and very fine angular blocky; firm; common roots; many prominent light brownish gray (10YR 6/2) clay depletions on faces of the larger peds and many distinct brown (10YR 4/3) clay films on faces of the smaller angular peds; few fine prominent light gray (10YR 7/1) iron depletions in the matrix; many medium concretions of iron-manganese

throughout; many black (10YR 2/1) threadlike manganese coatings and spherical manganese masses throughout; very strongly acid; clear smooth boundary.

Bt3—27 to 32 inches; yellowish brown (10YR 5/8 and 5/4) silty clay loam; moderate medium subangular blocky structure; very firm; common roots; many distinct brown (10YR 4/3) clay films on faces of peds; few fine prominent light gray (10YR 7/1) and light brownish gray (10YR 6/2) iron depletions in the matrix; many fine concretions of iron-manganese throughout; common black (10YR 2/1) threadlike manganese coatings and spherical manganese masses throughout; very strongly acid; gradual smooth boundary.

Btx1—32 to 36 inches; mottled grayish brown (10YR 5/2), brown (10YR 5/3), and yellowish brown (10YR 5/8) silty clay loam; weak coarse subangular blocky structure; firm; common roots; common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct light gray (10YR 7/1) iron depletions in the matrix; many fine concretions of iron-manganese throughout; brittle; very strongly acid; gradual smooth boundary.

Btx2—36 to 45 inches; mottled grayish brown (10YR 5/2), brown (10YR 5/3), and yellowish brown (10YR 5/8) silty clay loam; weak coarse prismatic structure; extremely firm; few roots; few distinct brown (10YR 4/3) clay films on faces of peds; common fine and medium distinct light gray (10YR 7/1) iron depletions in the matrix; many fine concretions of iron-manganese throughout; brittle; very strongly acid; gradual smooth boundary.

Bx—45 to 80 inches; mottled grayish brown (10YR 5/2), pale brown (10YR 6/3), yellowish brown (10YR 5/8), and light gray (10YR 7/1) silt loam; weak medium prismatic structure; extremely firm; few very dark grayish brown (10YR 3/2) threadlike manganese coatings and spherical manganese masses throughout; many fine concretions of iron-manganese throughout; brittle; very strongly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to fragic soil properties: 25 to about 45 inches
Depth to the base of the argillic horizon: 35 to 65 inches
Average content of clay in the particle-size control section: 27 to 35 percent
Content of sand in the series control section: Less than 10 percent fine sand or coarser material

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam

A horizon (in undisturbed areas):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—commonly silt loam; less commonly silty clay loam

E, BE, and B/E horizons:
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—commonly silt loam; silty clay loam in the BE horizon in some pedons

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6

Chroma—2 to 8
Texture—silty clay loam or silt loam

Btx and Bx horizons:
Hue—10YR
Value—5 to 7
Chroma—2 to 8
Texture—silty clay loam or silt loam
Content of clay—24 to 35 percent

C horizon (where present):
Hue—10YR
Value—5 to 7
Chroma—1 to 8
Texture—silt loam
Content of clay—20 to 27 percent

164A—Stoy silt loam, 0 to 2 percent slopes

Setting

Landform: Interfluves on till plains
Position on the landform: Summits

Map Unit Composition

Stoy and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less gray in the lower part of the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Cowden and Whitson soils on toeslopes and flat summits; in landscape positions above those of the Stoy soil
- The well drained, steep Hickory soils in landscape positions below those of the Stoy soil

Properties and Qualities of the Stoy Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 25 to 45 inches to a fragipan
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest perched seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

164B—Stoy silt loam, 2 to 5 percent slopes

Setting

Landform: Interfluves on till plains
Position on the landform: Shoulders

Map Unit Composition

Stoy and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less gray in the lower part of the subsoil
- Soils that are eroded
- Soils that have more sand in the lower part of the subsoil
- Soils that are strongly sloping

Dissimilar soils:
- The poorly drained Cowden and Whitson soils on toeslopes and flat summits; in landscape positions above those of the Stoy soil
- The well drained, steep Hickory soils in landscape positions below those of the Stoy soil

Properties and Qualities of the Stoy Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 25 to 45 inches to a fragipan
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest perched seasonal high water table: 1 foot, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Tice Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Tice silty clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of about 575 feet above mean sea level; Macon County, Illinois; about 325 feet south and 960 feet east of the center of sec. 22, T. 16 N., R. 1 W.; USGS Niantic, Illinois, topographic quadrangle; lat. 39 degrees 49 minutes 18 seconds N. and long. 89 degrees 11 minutes 09 seconds W.; UTM Zone 16S, 0312918 easting 4410255 northing; NAD 83.

Ap—0 to 6 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular and moderate medium angular blocky structure; friable; slightly acid; abrupt smooth boundary.

A—6 to 21 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine subangular blocky structure; friable; neutral; clear smooth boundary.

Bt1—21 to 34 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bt2—34 to 46 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent strong brown (7.5YR 5/8 and 4/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bt3—46 to 58 inches; dark grayish brown (10YR 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese oxides throughout; neutral; clear smooth boundary.

Btg—58 to 66 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse prismatic structure; firm; few faint gray (10YR 5/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct rounded black (7.5YR 2.5/1) very weakly cemented nodules of iron-manganese throughout; neutral; gradual wavy boundary.

BCtg—66 to 80 inches; 70 percent grayish brown (2.5Y 5/2) and 30 percent light olive brown (2.5Y 5/3) silt loam; massive; very friable; few distinct dark grayish brown (10YR 4/2) clay films on surfaces along pores; common fine tubular pores; many medium faint light brownish gray (10YR 6/2) iron depletions, many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron, and few medium distinct black (2.5Y 2.5/1) extremely weakly cemented manganese accumulations in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: More than 60 inches
Depth to the base of the cambic horizon: More than 30 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silty clay loam
Content of rock fragments—none
Reaction—slightly acid or neutral

Bt, Btg, Bw, or Bg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

BC, BCtg, or BCg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—1 to 4
Texture—silty clay loam or silt loam; thin strata of loam, clay loam, or sandy loam in some pedons
Content of rock fragments—none
Reaction—moderately acid to neutral

C or Cg horizon (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 3
Texture—stratified silty clay loam, clay loam, loam, sandy loam, or silt loam
Content of rock fragments—none
Reaction—moderately acid to slightly alkaline

3284A—Tice silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Tice and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have more gray in the upper part of the subsoil
- Soils that have more sand in the subsoil and substratum
- Soils that are very deep to bedrock
- Soils that are subject to occasional flooding
- Soils that have a very thick dark surface layer

Dissimilar soils:
- The well drained Channahon soils on terraces; in landscape positions above those of the Tice soil

- The well drained Armiesburg and Stonelick soils on rises; in landscape positions above those of the Tice soil
- The poorly drained Darwin soils on flood plains

Properties and Qualities of the Tice Soil

Parent material: Silty alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 1 foot, January through May
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Virden Series

Taxonomic classification: Fine, smectitic, mesic Vertic Argiaquolls

Typical Pedon

Virden silt loam, 0 to 2 percent slopes, at an elevation of 673 feet above mean sea level; Edgar County, Illinois; 1,450 feet west and 1,100 feet south of the northeast corner of sec. 14, T. 12 N., R. 13 W.; USGS Clarksville, Illinois, topographic quadrangle; lat. 39 degrees 29 minutes 46.7 seconds N. and long. 87 degrees 49 minutes 01.6 seconds W.; UTM Zone 16S, 0429748 easting 4372173 northing; NAD 83.

Ap1—0 to 6 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; abrupt smooth boundary.
Ap2—6 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine and medium angular blocky structure; firm; common very fine roots; neutral; abrupt smooth boundary.
Btg1—11 to 16 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; friable; common very fine roots; many faint black (10YR 2/1) organo-clay films on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese in the matrix; neutral; clear wavy boundary.
Btg2—16 to 22 inches; dark gray (10YR 4/1) silty clay; moderate fine and medium prismatic structure; firm; common very fine roots; many distinct very dark gray

(10YR 3/1) organo-clay films on faces of peds; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese in the matrix; neutral; gradual wavy boundary.

Btg3—22 to 28 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; many medium distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese in the matrix; slightly acid; gradual wavy boundary.

Btg4—28 to 41 inches; gray (10YR 5/1) silty clay; moderate medium and coarse prismatic structure; firm; few very fine roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; diffuse wavy boundary.

Btg5—41 to 52 inches; light gray (10YR 6/1) silty clay; moderate coarse prismatic structure; firm; few very fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; slightly acid; diffuse wavy boundary.

BCtg—52 to 60 inches; light gray (10YR 6/1) silty clay loam; weak coarse prismatic structure; friable; few very fine roots throughout; few faint dark gray (10YR 4/1) clay films on faces of peds and in root channels; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the loess: More than 60 inches
Depth to carbonates: More than 50 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR or 2.5Y
Value—2 to 3
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 4
Texture—silty clay loam, silty clay, or silt loam
Content of rock fragments—none
Reaction—moderately acid to neutral

BCg or BCtg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 4
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—slightly acid or neutral

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6

Chroma—0 to 4
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—slightly acid to moderately alkaline

50A—Virden silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains
Position on the landform: Toeslopes

Map Unit Composition

Virden and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thin surface layer
- Soils that have a very thick dark surface layer
- Soils that have more sand in the subsoil and substratum
- The poorly drained Weir soils on flats; in landscape positions above those of the Virden soil

Dissimilar soils:
- The somewhat poorly drained Oconee soils on slight rises

Properties and Qualities of the Virden Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

W—Water

- This map unit consists of perennial lakes, ponds, rivers, and streams.

Weir Series

Taxonomic classification: Fine, smectitic, mesic Typic Endoaqualfs

Typical Pedon

Weir silt loam, 0 to 2 percent slopes, at an elevation of 678 feet above mean sea level; Edgar County, Illinois; 1,750 feet west and 650 feet north of the southeast corner of sec. 13, T. 12 N., R. 13 W.; USGS Clarksville, Illinois, topographic quadrangle; lat. 39 degrees 29 minutes 13.9 seconds N. and long. 87 degrees 47 minutes 56.1 seconds W.; UTM Zone 16S, 0431297 easting 4371149 northing; NAD 83.

Ap—0 to 8 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.

Eg—8 to 18 inches; grayish brown (10YR 5/2) silt loam; weak thin and medium platy structure; friable; few very fine roots; common fine distinct yellowish brown (10YR 5/6) and common fine faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; few fine rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; neutral; clear smooth boundary.

Btg1—18 to 29 inches; light gray (10YR 6/1) silty clay loam; moderate medium prismatic structure; firm; few very fine roots; many faint gray (10YR 5/1) clay films on faces of peds and common distinct dark gray (10YR 4/1) clay films in root channels and pores; common fine prominent strong brown (7.5YR 4/6) and common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese in the matrix; common fine rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; very strongly acid; gradual smooth boundary.

Btg2—29 to 46 inches; light gray (10YR 6/1) silty clay loam; moderate coarse subangular blocky structure; firm; few very fine roots; many faint gray (10YR 5/1) clay films on faces of peds and common distinct dark gray (10YR 4/1) clay films in root channels and pores; common fine prominent strong brown (7.5YR 4/6) and few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese in the matrix; common fine and medium rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; very strongly acid; gradual smooth boundary.

Btg3—46 to 62 inches; light gray (10YR 6/1) silty clay loam; weak coarse subangular blocky structure; firm; few faint gray (10YR 5/1) clay films on faces of peds and few distinct dark gray (10YR 4/1) clay films in root channels and pores; common fine prominent strong brown (7.5YR 4/6) and few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese in the matrix; common fine rounded black (10YR 2/1) weakly cemented nodules of iron-manganese throughout; strongly acid; clear wavy boundary.

2BCg—62 to 71 inches; light brownish gray (2.5Y 6/2) and yellowish brown (10YR 5/4) silt loam; weak coarse prismatic structure; friable; no roots; few very fine pores; few distinct dark brown (7.5YR 3/2) masses of iron-manganese oxides on faces of prisms; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent black (7.5YR 2.5/1) extremely weakly cemented iron-manganese accumulations in the matrix; few medium

prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; very strongly acid; clear wavy boundary.

2Cg—71 to 80 inches; light brownish gray (2.5Y 6/2) loam; platy rock structure; friable; many medium prominent yellowish brown (10YR 5/8 and 5/6) masses of oxidized iron in the matrix; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine prominent black (7.5YR 2.5/1) masses of iron-manganese throughout; strongly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: More than 60 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 35 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Eg horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—very strongly acid or strongly acid

BCg or BCtg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

2BCtg, 2BCg, or 2Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silt loam, loam, or clay loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to slightly alkaline

165A—Weir silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains

Map Unit Composition

Weir and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface layer
- Soils that have a thick subsurface layer
- The poorly drained Virden soils in swales
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils in moderately steep areas; in landscape positions below those of the Weir soil
- The well drained, steep Hickory soils in landscape positions below those of the Weir soil

Properties and Qualities of the Weir Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Whitaker Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Endoaqualfs

Typical Pedon

Whitaker loam, 0 to 2 percent slopes, at an elevation of 656 feet above mean sea level; Vermilion County, Illinois; 1,960 feet south and 850 feet west of the northeast corner of sec. 36, T. 19 N., R. 11 W.; USGS Danville SE, Illinois, topographic quadrangle; lat. 40 degrees 04 minutes 07.6 seconds N. and long. 87 degrees 32 minutes 50.6 seconds W.; UTM Zone 16T, 0453321 easting 4435533 northing; NAD 83.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak very fine granular structure; friable; neutral; abrupt smooth boundary.

BE—10 to 14 inches; dark grayish brown (10YR 4/2) loam; moderate fine subangular blocky structure; friable; many distinct grayish brown (10YR 5/2) silt coatings on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese and common prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine rounded concretions of iron-manganese throughout; slightly acid; abrupt smooth boundary.

Btg—14 to 22 inches; grayish brown (10YR 5/2) clay loam; moderate fine subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct yellowish brown (10YR 5/4) masses of oxidized iron and manganese and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine rounded concretions of iron-manganese throughout; strongly acid; clear smooth boundary.

Bt1—22 to 34 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct grayish brown (10YR 5/2) iron depletions; many fine distinct dark yellowish brown (10YR 4/6) masses of oxidized iron and manganese in the matrix; common medium irregular extremely weakly cemented iron-manganese accumulations throughout; moderately acid; gradual smooth boundary.

Bt2—34 to 47 inches; yellowish brown (10YR 5/4), stratified clay loam, loam, and sandy loam; moderate medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium irregular extremely weakly cemented iron-manganese accumulations throughout; slightly acid; gradual smooth boundary.

BCt—47 to 54 inches; yellowish brown (10YR 5/4), stratified sandy loam, loamy sand, and loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium irregular extremely weakly cemented iron-manganese accumulations throughout; neutral; diffuse smooth boundary.

C—54 to 60 inches; dark yellowish brown (10YR 4/4), stratified sandy loam, loamy sand, and loam; massive; friable; many medium distinct light brownish gray (10YR 6/2) iron depletions; many fine distinct dark yellowish brown (10YR 4/6) masses of oxidized iron and manganese in the matrix; common medium irregular extremely weakly cemented iron-manganese accumulations throughout; neutral.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: More than 40 inches
Depth to the base of the argillic horizon: 32 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—loam
Content of rock fragments—0 to 5 percent
Reaction—moderately acid to neutral

E or BE horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—loam, sandy loam, or silt loam
Content of rock fragments—0 to 5 percent
Reaction—moderately acid to neutral

Btg or Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—loam, sandy loam, clay loam, or sandy clay loam
Content of rock fragments—0 to 5 percent
Reaction—strongly acid to neutral

BC, BCt, BCg, or BCtg horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—loam or sandy loam
Content of rock fragments—0 to 10 percent
Reaction—moderately acid to slightly alkaline

C or Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified loam, silt loam, and sandy loam
Content of rock fragments—0 to 14 percent
Reaction—slightly acid to moderately alkaline

7571A—Whitaker loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Footslopes

Map Unit Composition

Whitaker and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand in the subsoil
- Soils that have less gray in the subsoil
- Soils that are subject to frequent flooding

Dissimilar soils:
- The well drained, steep Hickory soils
- The well drained Alvin soils in landscape positions similar to those of the Whitaker soil
- The somewhat poorly drained Shoals and well drained Stonelick soils on flood plains; in landscape positions below those of the Whitaker soil
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Whitaker Soil

Parent material: Loamy alluvium over stratified sandy glaciofluvial deposits
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest apparent seasonal high water table: 0.5 foot, January through May
Ponding: None
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Whitson Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaqualfs

Typical Pedon

Whitson silt loam, 0 to 2 percent slopes, at an elevation of 564 feet above mean sea level; Clark County, Illinois; 840 feet south and 75 feet east of the northwest corner of sec. 14, T. 11 N., R. 11 W.; USGS Dennison, Illinois, topographic quadrangle; lat. 39 degrees 24 minutes 06.1 seconds N. and long. 87 degrees 36 minutes 35.3 seconds W.; UTM Zone 16S, 0447493 easting 4361535 northing; NAD 83.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; weak fine granular structure; friable; many roots; few fine masses of iron-manganese oxides throughout; neutral; abrupt smooth boundary.

Eg1—10 to 18 inches; light brownish gray (2.5Y 6/2) silt loam, very pale brown (10YR 8/2) dry; weak fine granular structure; friable; common roots; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; very few extremely weakly cemented iron-manganese accumulations throughout; neutral; clear irregular boundary.

Eg2—18 to 23 inches; light brownish gray (2.5Y 6/2) silt loam; moderate coarse granular structure; friable; common roots; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine extremely weakly cemented iron-manganese accumulations throughout; strongly acid; clear irregular boundary.

Btg1—23 to 30 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few roots; many distinct light brownish gray (2.5Y 6/2) clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; gradual smooth boundary.

Btg2—30 to 38 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; few roots; common prominent and distinct light brownish gray (2.5Y 6/2) clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; very few fine extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; gradual smooth boundary.

Btg3—38 to 44 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; few roots; many prominent light brownish gray (2.5Y 6/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; very few fine extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; gradual smooth boundary.

Btg4—44 to 48 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure parting to moderate coarse angular blocky; firm; few roots; many prominent light brownish gray (2.5Y 6/2) clay films on faces of peds; many fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron and manganese and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; gradual smooth boundary.

Btg5—48 to 52 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure parting to moderate coarse subangular blocky; firm; few roots; few faint light brownish gray (2.5Y 6/2) clay films on faces of peds; many fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron and manganese and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; clear wavy boundary.

BCg1—52 to 62 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure parting to strong coarse angular blocky; very firm; few roots; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium and coarse extremely weakly cemented iron-manganese accumulations throughout; very strongly acid; abrupt wavy boundary.

2BCg2—62 to 71 inches; light brownish gray (2.5Y 6/2) and yellowish brown (10YR 5/4) silt loam; weak coarse prismatic structure; friable; no roots; few very fine pores; few distinct dark brown (7.5YR 3/2) masses of iron-manganese oxides on

faces of prisms; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent black (7.5YR 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; few medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; very strongly acid; clear wavy boundary.

2Cg—71 to 80 inches; light brownish gray (2.5Y 6/2) loam; platy rock structure; friable; many medium prominent yellowish brown (10YR 5/8 and 5/6) masses of oxidized iron in the matrix; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine prominent black (7.5YR 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; strongly acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: More than 55 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: 35 to 55 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid to neutral

Eg horizon (where present):
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—2
Texture—silt loam
Content of rock fragments—none
Reaction—very strongly acid to neutral

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam
Content of rock fragments—none
Reaction—very strongly acid to moderately acid

BCtg or BCg horizon (where present):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam
Content of rock fragments—none
Reaction—very strongly acid to slightly acid

2BCtg, 2BCg, or 2Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2

Texture—silt loam, loam, or clay loam
Content of rock fragments—0 to 5 percent
Reaction—very strongly acid to slightly alkaline

116A—Whitson silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains
Position on the landform: Summits

Map Unit Composition

Whitson and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface layer
- Soils that have more clay in the subsoil
- Soils that have a thick subsurface layer

Dissimilar soils:
- The somewhat poorly drained Atlas and Blair soils in moderately steep areas; in landscape positions below those of the Whitson soil
- The somewhat poorly drained Bluford soils in landscape positions above those of the Whitson soil
- The well drained, steep Hickory soils in landscape positions below those of the Whitson soil

Properties and Qualities of the Whitson Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Wirt Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Dystric Fluventic Eutrudepts

Taxadjunct features: The Wirt soils in this survey area have slightly more clay than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine-loamy, mixed, superactive, mesic Dystric Fluventic Eutrudepts.

Typical Pedon

Wirt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 503 feet above mean sea level; Clark County, Illinois; 50 feet south and 50 feet east of the northwest corner of sec. 8, T. 11 N., R. 11 W.; USGS Marshall, Illinois, topographic quadrangle; lat. 39 degrees 25 minutes 06.7 seconds N. and long. 87 degrees 39 minutes 57 seconds W.; UTM Zone 16S, 0442685 easting 4363433 northing; NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) and dark brown (10YR 3/3) loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many very fine roots; 3 percent fine and very fine rock fragments; many earthworm casts; neutral; clear smooth boundary.

Bw1—7 to 17 inches; brown (10YR 4/3) loam; moderate medium subangular blocky structure; friable; few fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few very fine and fine rock fragments; neutral; clear wavy boundary.

Bw2—17 to 26 inches; brown (10YR 4/3) loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few very fine rock fragments; neutral; clear wavy boundary.

Bw3—26 to 35 inches; dark yellowish brown (10YR 4/4), stratified loam; weak medium and coarse prismatic structure; firm; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few very fine rock fragments; neutral; clear wavy boundary.

Bw4—35 to 55 inches; dark yellowish brown (10YR 4/4), stratified loam; weak coarse prismatic structure; firm; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few very fine yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine black (7.5YR 2.5/1) extremely weakly cemented iron-manganese accumulations throughout; few very fine and fine rock fragments; neutral; clear wavy boundary.

BCt—55 to 64 inches; yellowish brown (10YR 5/4), stratified sandy loam; weak coarse subangular blocky structure; friable; few faint brown (7.5YR 4/3) clay films on faces of peds; common fine and medium yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few very fine and fine rock fragments; neutral; gradual wavy boundary.

C—64 to 98 inches; yellowish brown (10YR 5/4), brownish yellow (10YR 6/6), and yellowish brown (10YR 5/6), stratified sandy loam, loamy sand, and gravelly loamy sand; single grain; loose; 12 percent fine and medium rock fragments; neutral.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Depth to carbonates: More than 60 inches
Depth to the base of the cambic horizon: 24 to 48 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR or 7.5YR
Value—3 or 4
Chroma—2 to 4
Texture—loam
Content of rock fragments—0 to 14 percent
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—loam or silt loam
Content of rock fragments—0 to 14 percent
Reaction—moderately acid to neutral

C, BC, or BCt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—stratified sandy loam, loamy sand, and gravelly loamy sand
Content of rock fragments—0 to 15 percent
Reaction—moderately acid to neutral

3226A—Wirt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Wirt and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have more gray in the lower part of the subsoil
- Soils that are subject to occasional flooding
- Soils that have a thin dark surface layer

Dissimilar soils:
- The well drained, steep Hickory soils in landscape positions above those of the Wirt soil
- The somewhat poorly drained Shoals soils in swales
- The poorly drained Ambraw soils on flood plains

Properties and Qualities of the Wirt Soil

Parent material: Loamy alluvium over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.5 percent
Shrink-swell potential: Low
Ponding: None
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Wynoose Series

Taxonomic classification: Fine, smectitic, mesic Typic Albaqualfs

Typical Pedon

Wynoose silt loam, 0 to 2 percent slopes, at an elevation of 455 feet above mean sea level; Wayne County, Illinois; 967 feet west and 2,458 feet north of the southeast corner of sec. 10, T. 1 N., R. 8 E.; USGS Enterprise, Illinois, topographic quadrangle; lat. 38 degrees 31 minutes 57.4 seconds N. and long. 88 degrees 17 minutes 50.3 seconds W.; UTM Zone 16S, 0386926 easting 4265710 northing; NAD 83.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; common very fine roots throughout; common fine distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine rounded masses of iron-manganese oxides throughout; neutral; abrupt smooth boundary.

Eg1—7 to 14 inches; light brownish gray (10YR 6/2) silt loam, white (2.5Y 8/1) dry; moderate medium platy structure; friable; few very fine roots throughout; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; common fine prominent strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine rounded extremely weakly cemented iron-manganese accumulations throughout; strongly acid; clear smooth boundary.

Eg2—14 to 20 inches; light brownish gray (10YR 6/2) silt loam, white (2.5Y 8/1) dry; moderate medium platy structure; friable; few very fine roots throughout; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine rounded extremely weakly cemented iron-manganese accumulations throughout; few fine irregular concretions of iron-manganese throughout; very strongly acid; abrupt smooth boundary.

Btg1—20 to 29 inches; light brownish gray (10YR 6/2) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine roots along faces of peds; many distinct gray (10YR 5/1) clay films and common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; many fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine rounded extremely weakly cemented iron-manganese accumulations throughout; common fine and medium irregular concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

Btg2—29 to 36 inches; light brownish gray (10YR 6/2) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine roots along faces of peds; common distinct gray (10YR 5/1) clay films and few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; many fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine rounded extremely weakly cemented iron-manganese accumulations throughout; few fine irregular concretions of iron-manganese throughout; very strongly acid; clear smooth boundary.

2Btg3—36 to 48 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots along faces of peds; few distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; common fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine rounded extremely weakly cemented iron-manganese accumulations throughout; few fine irregular concretions of iron-manganese throughout; about 2 percent angular gravel by volume; strongly acid; clear smooth boundary.

2Btg4—48 to 66 inches; gray (10YR 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots along faces of peds; few distinct gray (10YR 5/1) clay films on faces of peds and few distinct dark grayish brown (10YR 4/2) clay films on surfaces along root channels and pores; common fine and medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine irregular concretions of iron-manganese throughout; about 2 percent angular gravel by volume; strongly acid; clear smooth boundary.

3Btgb—66 to 80 inches; gray (10YR 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm; common distinct gray (10YR 5/1) clay films on faces of peds and common prominent black (N 2.5/) manganese coatings on faces of peds; common fine and medium prominent strong brown (7.5YR 5/6 and 5/8) masses of oxidized iron in the matrix; common medium irregular concretions of iron-manganese throughout; about 5 percent angular gravel by volume; moderately acid.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 30 to 55 inches
Depth to carbonates: More than 60 inches
Depth to the base of the argillic horizon: More than 40 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—strongly acid; ranges to neutral in limed areas

Eg horizon (where present):
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—silt loam
Content of rock fragments—none
Reaction—extremely acid to neutral

Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Content of rock fragments—none
Reaction—extremely acid to moderately acid

2Btg or 2BCg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 10 percent
Reaction—extremely acid to moderately acid

3Agb and/or 3Btgb horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 10 percent
Reaction—moderately acid to slightly alkaline

12A—Wynoose silt loam, 0 to 2 percent slopes

Setting

Landform: Till plains, ground moraines
Position on the landform: Summits

Map Unit Composition

Wynoose and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a dark surface layer
- Soils that have more sodium in the subsoil

Dissimilar soils:
- The moderately well drained Ava soils in landscape positions above those of the Wynoose soil
- The somewhat poorly drained Bluford soils on slight rises; in landscape positions above those of the Wynoose soil

Properties and Qualities of the Wynoose Soil

Parent material: Loess over silty or loamy mixed loess and drift over paleo accretionary deposits and/or loamy till
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 13 to 30 inches to abrupt textural change
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High

Depth and months of highest apparent seasonal high water table: At the surface, January through May
Frequency and duration of ponding: Frequent, brief (January through May)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Xenia Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Xenia silt loam, 2 to 5 percent slopes, at an elevation of about 705 feet above mean sea level; Champaign County, Illinois; about 390 feet north and 860 feet west of the southeast corner of sec. 34, T. 20 N., R. 9 E.; USGS Thomasboro, Illinois, topographic quadrangle; lat. 40 degrees 08 minutes 35.5 seconds N. and long. 88 degrees 09 minutes 57.1 seconds W.; UTM Zone 16T, 0400686 easting 4444304 northing; NAD 83.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate very fine and fine granular structure; friable; neutral; abrupt smooth boundary.
E—4 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium platy structure; friable; many faint light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.
BEt—10 to 16 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.
Bt1—16 to 23 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
Bt2—23 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and coarse subangular blocky structure; firm; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; many distinct grayish brown (10YR 5/2) silt coatings on faces of peds; few medium distinct grayish brown (10YR 5/2) and few medium faint brown (10YR 5/3) iron depletions in the matrix; moderately acid; clear smooth boundary.
2Bt3—37 and 48 inches; brown (10YR 5/3) and light olive brown (2.5Y 5/4) clay loam; weak coarse subangular blocky structure; firm; few distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; gradual smooth boundary.
2Bt4—48 to 57 inches; brown (10YR 5/3) and light olive brown (2.5Y 5/4) loam; weak coarse prismatic structure; firm; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear smooth boundary.

2Cd—57 to 72 inches; light olive brown (2.5Y 5/4) loam; massive; firm; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: Less than 7 inches
Thickness of the loess: 22 to 40 inches
Depth to carbonates: 40 to 60 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to bedrock: More than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—0 to 1 percent
Reaction—moderately acid to neutral

E, BE, or BEt horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Content of rock fragments—0 to 1 percent
Reaction—moderately acid to neutral

Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam
Content of rock fragments—0 to 1 percent
Reaction—strongly acid to neutral

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—loam or clay loam
Content of rock fragments—2 to 8 percent
Reaction—moderately acid to neutral

2BC or 2BCt horizon (where present):
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—loam or clay loam
Content of rock fragments—2 to 8 percent
Reaction—neutral or slightly alkaline

2Cd horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam
Content of rock fragments—2 to 8 percent
Reaction—slightly alkaline or moderately alkaline

291B—Xenia silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits, shoulders

Map Unit Composition

Xenia and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that are eroded
- Soils that have less gray in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the subsoil

Dissimilar soils:
- The well drained Senachwine soils in moderately steep areas; in landscape positions below those of the Xenia soil
- The somewhat poorly drained Brouillett soils on flood plains
- The poorly drained Drummer soils in swales

Properties and Qualities of the Xenia Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Depth and months of highest perched seasonal high water table: 1.5 feet, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses or describe specific management concerns. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the potential of the soils for the use. Terms for limitation classes are *not limited, somewhat limited,* and *very limited*. Terms indicating the potential of the soils for a given use are *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Soil Series and Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2002, approximately 238,974 acres in Clark County was used as cropland. Of this total, 4,804 acres was irrigated. Corn was grown on about 99,892 acres with an average yield of 117 bushels per acre. Soybeans were grown on about 116,716 acres with an average yield of 39 bushels per acre. Wheat was grown on about 3,551 acres with an average yield of 51 bushels per acre. Hay-alfalfa was grown on about 2,965 acres with an average yield of 2.39 tons per acre. About 94 percent of the planted acreage was harvested (USDA, National Agricultural Statistics Service, 2007).

The soils in Clark County have excellent potential for continued crop production, particularly if the latest crop production technologies are applied. This soil survey can be used as a resource for applying the latest crop production technologies.

Limitations Affecting Cropland and Pastureland

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 6.

Cropland

The main concerns affecting the management of nonirrigated cropland in Clark County are crusting, depth to bedrock, excess lime, excess sodium, excessive permeability, flooding, high pH, limited available water capacity, low pH, ponding, poor tilth, restricted permeability, root-restrictive layers, water erosion, wetness, and wind erosion.

Crusting occurs when flowing water or raindrops break down soil structural units, moving clay downward and leaving a concentration of sand and silt particles on the soil surface. Crusting can reduce the rate of water infiltration, increase the runoff rate, inhibit seedling emergence and proper growth, and reduce oxygen diffusion to seedlings. Generally, if the structure in the surface layer is weak, a crust forms on the surface during periods of intense rainfall. Atlas, Ava, Blair, Bluford, Camden, Colp, Genesee, Hickory, Hosmer, Hoyleton, Jules, Menfro, Petrolia, Racoon, Ridgway, Senachwine, Sexton, Shoals, Stoy, Wirt, and Xenia soils and Orthents are examples of soils that have a low content of organic matter in the surface layer, which typically increases the risk of surface crusting. Practices that help to minimize surface crusting and improve tilth are those that protect the surface from the impact of raindrops and from flowing water. Incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage can help to prevent crusting by improving tilth.

Bedrock within a depth of 40 inches can increase the hazard of erosion and limit the effectiveness of subsurface drainage systems. The restricted rooting depth affects plant growth by limiting nutrients and available water. Channahon soils have bedrock within a depth of 20 inches. Clark County has bedrock outcrops in areas of Hickory-Rock outcrop complex, 35 to 60 percent slopes. This map unit is not identified in the table as having a bedrock limitation because it is very steep and is generally unsuited to use as cropland.

Excess lime can cause deficiencies of available iron, manganese, copper, and zinc. Uptake and utilization of boron by plants may be hindered. The availability of phosphate may be reduced, and the absorption of phosphorus by plants may be affected. Jules soils are examples of soils that have excess lime. This limitation can be overcome by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; applying a nutrient management system, including additions of trace elements; and using conservation cropping systems. Plants that are tolerant of excess lime, such as barley, should be selected for planting in areas of these soils.

Excess sodium restricts the availability and uptake of some plant nutrients. Excess sodium also causes clay in the soil to disperse, which in turn plugs pores and restricts permeability. Applications of gypsum may be needed to improve the fertility and permeability of soils for which excess sodium is a limitation, such as Huey soils. Returning crop residue to the soil and regularly adding manure or other organic material improve fertility and tilth in the surface layer.

Excessive permeability can cause deep leaching of nutrients and pesticides. Ade, Carmi, Lamont, and Stockland soils are examples of soils that have excessive permeability. Testing soils for application rates, taking into account contributions from previous crops and manure applications, is essential for establishing proper nutrient management. The contamination of ground water should be avoided by applying nutrients at the proper time and using the proper application methods.

Flooding is considered a hazard when the map unit is commonly, occasionally, frequently, or very frequently flooded during the growing season. Flooding occurs in unprotected areas along the major rivers and their tributaries. Dikes or diversions reduce the extent of crop damage caused by floodwater. Flooding is a hazard on approximately 42,673 acres in Clark County. Most of the affected soils are frequently flooded by stream overflow. Flooding typically occurs in winter and spring. Damage to crops, particularly winter small grain crops, occurs in some years (fig. 17).

Ambraw, Armiesburg, Brouillett, Darwin, Genesee, Jules, Petrolia, Shoals, Stonelick, Tice, and Wirt soils are examples of soils that are subject to frequent flooding for brief periods. In areas of these soils, planting crops that are adapted to a shorter growing season and wetter conditions reduces the risk of crop damage caused by floodwater. Controlling runoff from higher ground within the watershed can reduce the frequency and severity of flooding. Changing land use from cropland to pasture or forestland can also minimize the economic effects of damage caused by flooding.

High pH can create plant toxicity or decreased availability of plant nutrients, either of which can affect the health and vigor of the plants. Genesee, Huey, Jules, Senachwine, and Stonelick soils are examples of soils that have high pH in one or more layers in the upper 40 inches. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, applying a nutrient management system that includes additions of trace elements, and using conservation cropping systems can help to overcome this limitation. Crops that are tolerant of high pH, such as oats and barley, should be selected for planting in areas where high pH is a concern.

Limited available water capacity can result in droughtiness during periods of low rainfall. Applying supplemental irrigation or planting crops that are tolerant of

Figure 17.—An area of Shoals silt loam, 0 to 2 percent slopes, frequently flooded.

droughtiness, such as wheat, rye, oats, barley, alfalfa, and pasture grasses, can help to overcome this limitation. Ade, Alvin, Carmi, Channahon, Disco, and Lamont soils are examples of soils with limited available water capacity.

Low pH can create toxicity or decreased availability of nutrients, either of which can affect the health and vigor of the plants. Applications of lime can help to overcome this limitation. The form of lime and the timing, amount, and method of application should be based on the results of soil testing and on the type of crop to be grown. Benefits of liming include nutritive calcium and magnesium; neutralization of toxic compounds; retardation of plant diseases; increased availability of plant nutrients; and encouragement of micro-organism activity that is favorable to plants. Examples of soils with low pH are Pierron, Weir, and Wynoose soils.

Ponding inhibits aeration, increases nutrient losses, and delays spring planting (fig. 18). Soils affected by ponding in the survey area are Ambraw, Brooklyn, Chauncey, Cisne, Cowden, Darwin, Drummer, Ebbert, Huey, Newberry, Petrolia, Pierron, Racoon, Sexton, Shiloh, Virden, Weir, Whitson, and Wynoose soils. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning.

Poor tilth can be inherent or may be caused by excessive tillage. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because such soils can be tilled within only a narrow range in moisture content, seedbed preparation is difficult. If the timing is not right, the resultant clods can affect seed-to-soil contact. Poor tilth inhibits seedling germination and emergence, increases the rate of runoff and the hazard of erosion, and reduces the rate of water infiltration. Soils with good tilth are granular and porous and have a high content of

organic matter in the surface layer. Soils that have poor tilth generally have more clay, a lower content of organic matter, and weaker soil structure in the surface layer. The severely eroded Atlas, Blair, Hickory, and Senachwine soils along with Ambraw, Armiesburg, Darwin, Petrolia, and Shiloh soils have poor tilth. If these soils are plowed when too wet, they can become cloddy. Practices that improve soil tilth are those that protect the surface from the impact of raindrops and from flowing water. Incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage can improve tilth. Surface cloddiness can be controlled by avoiding tillage when the soil is too wet or by using no-till farming practices.

Restricted permeability interferes with internal soil drainage and aeration. Waterlogging, denitrification, compaction, delayed planting, and a higher rate of surface runoff are some common effects of restricted permeability in areas used as cropland. Many of the soils in Clark County have restricted permeability. The somewhat poorly drained Bluford soils are examples. Atlas, Ava, Blair, Bluford, Brooklyn, Channahon, Chauncey, Cisne, Colp, Cowden, Darwin, Ebbert, Hosmer, Hoyleton, Huey, Millbrook, Newberry, Oconee, Petrolia, Pierron, Racoon, Senachwine, Sexton, Shiloh, Starks, Stoy, Virden, Weir, Whitson, and Wynoose soils also have restricted permeability. In areas of these soils, drainage is required for optimum crop yields. In areas of poorly drained soils that have restricted permeability, a system of surface ditches composed of mains and laterals is the most common drainage method used. Tile drainage systems tend to perform poorly in areas of these soils, and closer spacing of the tiles may be necessary. Conservation tillage or no-till and crop residue management can help to minimize compaction and reduce the surface runoff rate.

Root-restrictive layers include dense material, natric horizons, bedrock, and fragipans. Such layers can increase the hazard of erosion and can affect plant growth by limiting nutrients and the available water capacity. Examples of soils with root-restrictive layers are Ava, Hosmer, and Stoy soils, which have a fragipan; Xenia soils,

Figure 18.—Ponding in an area of Shiloh silty clay loam, 0 to 2 percent slopes, delays planting in the spring. Cowden and Ebbert soils are typically in the slightly higher positions on the landscape.

which are underlain by dense till; and Channahon soils, which are underlain by bedrock. A combination of conservation measures, including using special tillage practices, incorporating organic material into the soil, and selecting proper crop varieties, can help to overcome this limitation.

Water erosion can result in a reduction in soil aggregate stability, which reduces the rate of water infiltration and increases the rate of surface runoff (Brady, 1984). Soils that have long or steep slopes are more susceptible to water erosion than some other soils. Excessive runoff can reduce the quality of surface water through sedimentation and contamination by agricultural chemicals attached to soil particles in the sediment that enters streams, rivers, water impoundments, and road ditches. Water erosion is a hazard on about 25 percent of the total land area in the county. Alvin, Atlas, Ava, Blair, Bluford, Camden, Colp, Hickory, Hosmer, Hoyleton, Lamont, Menfro, Muren, Oconee, Ridgway, Senachwine, Stoy, and Xenia soils are examples of soils that are susceptible to water erosion. Erosion can be controlled by a conservation tillage system that leaves crop residue on the surface after planting (fig. 19) or by a cropping system that includes rotations of grasses and legumes. On soils that have long, uniform slopes, contour farming and/or terraces in combination with a conservation tillage system can help to control erosion. Management measures that help to control water erosion can also reduce sedimentation and improve the quality of water available for rural, municipal, and recreational uses and for fish and wildlife.

Wetness is a management concern on about 69 percent of the acreage in Clark County. Some soils are naturally so wet that the production of crops generally is not possible unless a drainage system is installed. Examples include Ambraw, Atlas, Blair, Bluford, Brenton, Brooklyn, Brouillett, Chauncey, Cisne, Cowden, Darwin, Drummer, Ebbert, Hoyleton, Huey, Millbrook, Newberry, Oconee, Petrolia, Pierron,

Figure 19.—Crop residue left on the surface as a result of minimum tillage practices protects the soil from the impact of raindrops and from runoff. It also improves tilth and the nutrient-holding capacity of the soil.

Racoon, Sexton, Shiloh, Shoals, Starks, Stoy, Tice, Virden, Weir, Whitaker, Whitson, and Wynoose soils. Some moderately well drained soils, such as Ava, Hosmer, Muren, and Xenia soils, do not typically need drainage; however, these soils may benefit from drainage in some areas. Seasonal wetness in areas of somewhat poorly drained soils can delay planting in wet years. Most of the soils needing drainage have already been drained by surface ditches or tile. The maintenance or replacement of drainage systems is needed for maximum efficiency. Subsurface drains can lower the seasonal high water table if suitable outlets are available. In soils that have a high content of clay and restricted permeability, subsurface drainage is not practical. In these soils, surface ditches are used to reduce the wetness. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Wind erosion can be a concern on soils that have a surface layer of sand or loamy sand. Wind erosion can also occur on fine textured soils. Generally, most soils on which the surface is exposed as a result of cultivation are subject to wind erosion. The susceptibility of the soil to wind erosion is affected by the texture of the surface layer; the moisture content of the soil; the content of organic matter, calcium carbonate, and rock fragments; aggregate stability; and cultivation practices. Large areas that are not protected by field windbreaks and cleared areas on flood plains are vulnerable. Ade soils are susceptible to wind erosion. Other soils have a moderate or moderately high susceptibility to wind erosion. These include Darwin and Shiloh soils, which have a high content of clay in the surface layer; Jules and Stonelick soils, which have a high content of calcium carbonate in the surface layer; and Alvin, Carmi, Disco, and Genesee soils, which have a high content of sand in the surface layer. Conservation tillage, residue management, moisture management, conservation structures, and windbreaks can be used to limit the damage caused by wind erosion.

Pastureland

Growing legumes, cool-season grasses, and warm-season grasses that are suited to the soils and climate of the area helps to maintain a productive stand of pasture or hay (fig. 20). Suitable pasture and hay plants include several legumes, cool-season grasses, and native warm-season grasses. Alfalfa, red clover, alsike clover, and ladino clover are legumes commonly grown in the county. Alfalfa is best suited to soils that are not flooded or that are subject to only rare flooding, such as the well drained Ade, Alvin, Camden, Carmi, Hickory, Lamont, Menfro, Ridgway, Senachwine, and Stockland soils and the moderately well drained Ava, Colp, Hosmer, Muren, and Xenia soils. Alfalfa is also suited to some of the somewhat poorly drained soils, such as Blair, Brenton, Millbrook, Starks, Stoy, and Whitaker soils. Other legumes, such as alsike clover, red clover, and ladino clover, are more tolerant of wetter conditions. These legumes are best suited to poorly drained soils, such as Brooklyn, Chauncey, Cisne, Cowden, Darwin, Drummer, Ebbert, Huey, Newberry, Oconee, Pierron, Racoon, Sexton, Shiloh, Virden, Weir, Whitson, and Wynoose soils, and to some of the somewhat poorly drained soils, such as Atlas, Bluford, and Hoyleton soils.

Cool-season grasses commonly grown in the county include smooth bromegrass, orchardgrass, and tall fescue. These grasses can be used alone or in mixtures with legumes. Native warm-season grasses, such as indiangrass, big bluestem, and switchgrass, grow very well in the summer. They require different management techniques from those used for cool-season grasses.

Proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. It helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control is generally needed. Using rotation grazing, deferring grazing when the soil is wet, and applying lime and fertilizers as needed also are important management practices.

Figure 20.—An area of gently rolling Stoy and Ava soils used for hay.

The main concerns affecting the management of pastureland in Clark County are depth to bedrock, equipment limitations, excess lime, excess sodium, excessive permeability, flooding, frost heave, high pH, limited available water capacity, low fertility, low pH, ponding, poor tilth, root-restrictive layers, water erosion, wetness, and wind erosion.

Bedrock within a depth of 40 inches can increase the hazard of erosion and limit the effectiveness of drainage systems. Bedrock affects plant growth by limiting nutrients and the available water capacity. Channahon soils have bedrock within a depth of 20 inches. Clark County has bedrock outcrops in areas of Hickory-Rock outcrop complex, 35 to 60 percent slopes (fig. 21). This map unit is not identified in the table as having a bedrock limitation because it is very steep and is generally unsuited to pasture and hay.

Equipment limitations make fertilization, harvest, pasture renovation, and seedbed preparation difficult or costly. The use of equipment is limited in moderately steep and steep areas of Hickory soils.

Excess lime can result in deficiencies in available iron, manganese, copper, and zinc. The uptake and utilization of boron by plants may be hindered. The availability of phosphate may be reduced, and the absorption of phosphorus by plants may be affected. Jules and Stonelick soils are examples of soils that have excess lime. Establishing proper nutrient management, including additions of trace elements, and applying manure can help to overcome this limitation. Big bluestem, smooth brome, red fescue, tall fescue, and timothy and other plants that are tolerant of excess lime should be selected for planting in areas of these soils.

Excess sodium restricts the availability and uptake of some plant nutrients. Excess sodium also causes clay in the soil to disperse, which in turn plugs pores and

restricts permeability. Applications of gypsum may be needed to improve the fertility and permeability of soils for which excess sodium is a limitation, such as Huey soils. Regularly adding manure or other organic material to the soil can improve fertility and tilth in the surface layer.

Excessive permeability can cause deep leaching of nutrients and pesticides. Ade, Carmi, Disco, and Lamont soils are examples of soils that have excessive permeability. Testing soils for application rates is essential for establishing proper nutrient management. The contamination of ground water should be avoided by applying nutrients at the proper time and using the proper application methods.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Surface drainage ditches help to remove floodwater where suitable outlets are available. Flooding may damage pasture plants in some years. Ambraw, Armiesburg, Brouillett, Darwin, Genesee, Jules, Petrolia, Shoals, Stonelick, Tice, and Wirt soils are

Figure 21.—Mixed loess and drift over partially weathered shale in an area of Hickory-Rock outcrop complex, 35 to 60 percent slopes.

examples of soils that are subject to frequent flooding for brief periods. Selecting forage and hay varieties adapted to a shorter growing season and wetter conditions also reduces the extent of flood damage. Dikes and diversions can help to minimize the extent of flood damage. Restricted use during wet periods helps to keep the pasture in good condition. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning.

Frost heave occurs in soils when ice lenses or bands develop into or push an ice wedge between layers of soil near the surface. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils that have textures low in sand have small pores that hold water and enable ice lenses to form. Ambraw, Brooklyn, Chauncey, Cisne, Cowden, Darwin, Drummer, Ebbert, Huey, Newberry, Petrolia, Pierron, Racoon, Sexton, Shiloh, Virden, Weir, Whitson, and Wynoose soils are examples of soils that are susceptible to frost heave. Selecting adapted forage and hay varieties helps to minimize the effects of frost heave. Timely rotation of grazing maintains a vegetative cover on the surface, which insulates the soil and thus reduces the effects of frost heave. In winter, leaving stubble 4 to 6 inches high helps to prevent frost heave. Using grass-legume mixtures can also help to prevent frost heave.

High pH can create plant toxicity or reduce the availability of plant nutrients, either of which can affect the health and vigor of the plants. Genesee, Huey, Jules, Senachwine, and Stonelick soils are examples of soils with high pH in one or more layers in the upper 40 inches. This limitation can be overcome by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; applying a nutrient management system, including additions of trace elements; and using conservation cropping systems. Selecting crops that are tolerant of high pH, such as oats and barley, can also help to overcome this limitation.

Limited available water capacity can result in droughtiness during periods of low rainfall. Applying supplemental irrigation or planting crops that are tolerant of droughtiness, such as big bluestem, smooth brome, red fescue, alfalfa, and Kentucky bluegrass, can help to overcome this limitation. Ade, Alvin, Carmi, Channahon, Disco, Lamont, and Stockland soils are examples of soils with limited available water capacity.

Low fertility is associated with a low content of organic matter and a low cation-exchange capacity, which may result in a limited capacity of the soil to retain nutrients for plant use. Ade, Alvin, Atlas, Blair, Hickory, Lamont, Senachwine, and Stonelick soils are examples of soils that have low fertility. Frequent applications of small amounts of fertilizer help to prevent excessive loss of plant nutrients through leaching. Using legumes as part of a seeding mixture can provide nitrogen to the grass varieties. Timely deferment of grazing helps to maintain adequate surface cover and the content of organic matter, which is a source of nutrients in the soil.

Low pH can create toxicity or reduce the availability of nutrients, either of which can affect the health and vigor of the plants. With few exceptions, almost all of the upland soils in Clark County have pH less than or equal to 5.5 in one or more layers within a depth of 40 inches. Channahon and Virden soils typically do not have low pH. Also, many of the soils on flood plains do not have low pH. Selecting adapted forage and hay varieties and applying lime according to the results of soil tests can help to overcome this limitation. Selecting species that are tolerant of acidic conditions, such as red clover, alsike clover, redtop, big bluestem, smooth brome, orchardgrass, red fescue, tall fescue, timothy, switchgrass, Kentucky bluegrass, and crimson clover, can improve the quantity and quality of livestock forage.

Ponding affects aeration and increases nutrient losses. Some soils affected by ponding in the survey area are Ambraw, Brooklyn, Chauncey, Cisne, Cowden, Darwin, Drummer, Ebbert, Huey, Newberry, Petrolia, Pierron, Racoon, Sexton, Shiloh, Virden, Weir, Whitson, and Wynoose soils. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable

outlets are available. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Poor tilth in pasture or hayland can be inherent or may be caused by erosion or excessive tillage. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because these soils can be tilled within only a narrow range in moisture content, seedbed preparation is difficult. If the timing is not right, the resultant clods can affect seed-to-soil contact. Poor tilth inhibits seedling germination and emergence, increases runoff and erosion, and reduces the rate of water infiltration. Soils with good tilth are granular and porous and have a high content of organic matter in the surface layer. Soils with poor tilth generally have more clay, a lower content of organic matter, and weaker soil structure in the surface layer. Ambraw, Armiesburg, Darwin, and Petrolia soils and the severely eroded Atlas, Blair, Hickory, and Senachwine soils have poor tilth. If these soils are tilled when too wet, they can become cloddy. Practices that improve soil tilth are those that protect the surface from the impact of raindrops and from flowing water. Surface cloddiness can be controlled by avoiding tillage when the soil is too wet or using no-till planting methods and by using a planned grazing system in areas of pastureland.

Root-restrictive layers include dense material, natric horizons, bedrock, or fragipans (fig. 22). Such layers can increase the hazard of erosion and limit the effectiveness of drainage systems. Root-restrictive layers affect plant growth by limiting available nutrients and the available water capacity. Examples of soils with root-restrictive layers are Ava, Hosmer, and Stoy soils, which have a fragipan; Xenia soils, which are underlain by dense till; and Channahon soils, which are underlain by bedrock. A combination of conservation measures, including special tillage practices, incorporating organic material into the soil, and selecting adapted forage and hay varieties, can help to overcome this limitation.

Figure 22.—Overhead view of the top of the fragipan layer in an Ava soil.

Water erosion reduces the productivity of the soil. It also results in sediments, livestock manure, and added nutrients entering streams, rivers, water impoundments, and road ditches. Soils with long or steep slopes are susceptible to water erosion. Alvin, Atlas, Ava, Blair, Bluford, Camden, Colp, Hickory, Hosmer, Hoyleton, Lamont, Menfro, Muren, Oconee, Ridgway, Senachwine, Stoy, and Xenia soils are examples of soils that are susceptible to water erosion. Using a system of rotation grazing prevents overgrazing and thus prevents surface compaction and excessive runoff and helps to control erosion. Tilling on the contour, using a no-till system of seeding, and selecting adapted forage and hay varieties also help to control erosion.

Wetness is a management concern on about 69 percent of the acreage in Clark County. Some soils are naturally so wet that the production of crops generally is not possible unless a drainage system is installed. Wetness is a concern in areas of Ambraw, Atlas, Blair, Bluford, Brenton, Brooklyn, Brouillett, Chauncey, Cisne, Cowden, Darwin, Drummer, Ebbert, Hoyleton, Huey, Millbrook, Newberry, Oconee, Petrolia, Pierron, Racoon, Sexton, Shiloh, Shoals, Starks, Stoy, Tice, Virden, Weir, Whitaker, Whitson, and Wynoose soils. Most of the soils needing drainage are already drained by surface ditches or tile. The maintenance or replacement of drainage systems is necessary for maximum efficiency. Subsurface drains can lower the seasonal high water table if suitable outlets are available. In soils that have a high clay content and restricted permeability, subsurface drainage is not practical. In these soils, surface ditches are used to reduce the wetness. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning. In undrained areas, grasses and forbs, such as switchgrass, alsike clover, and redtop, should grow well.

Wind erosion can be a concern on soils that have a surface layer of sand or loamy sand. Wind erosion can also occur on fine textured soils. Generally, most soils on which the surface is exposed as a result of cultivation are subject to wind erosion. The susceptibility of the soil to wind erosion is affected by the texture of the surface layer; the moisture content of the soil; the content of organic matter, calcium carbonate, and rock fragments; aggregate stability; and cultivation practices. Large areas that are not protected by field windbreaks and cleared areas on flood plains are vulnerable. Ade soils are susceptible to wind erosion. Other soils have a moderate or moderately high susceptibility to wind erosion. These include Darwin and Shiloh soils, which have a high content of clay in the surface layer; Jules and Stonelick soils, which have a high content of calcium carbonate in the surface layer; and Alvin, Carmi, Disco, and Genesee soils, which have a high content of sand in the surface layer. Conservation tillage, residue management, moisture management, conservation structures, and windbreaks can be used to limit the damage caused by wind erosion.

Erosion Control

Generally, a combination of several practices is needed to control erosion. Conservation tillage, including chisel tillage and no-till, is common in Clark County. Contour stripcropping, contour farming, conservation cropping systems, crop residue management, terraces, diversions, buffer strips, riparian areas, and grassed waterways help to prevent excessive soil loss.

The loss of the surface layer through erosion causes damage in two ways. First, productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. The subsoil generally has fewer plant nutrients, a lower content of organic matter, and a higher content of clay than the surface layer. As the content of organic matter in the tilled layer decreases and the clay content increases, soil tilth is reduced. Loss of soil tilth increases the likelihood that a crust will form on the surface; the crust can reduce the rate of water infiltration. The higher clay content increases the likelihood that the surface layer will become cloddy when

tilled, especially if it is tilled when wet. As a result, preparing a seedbed becomes very difficult. Water tends to puddle on soils in eroded areas, and the crust that forms when the puddles dry up can increase the rate of surface runoff. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, such as Bluford soils, and on soils that are moderately eroded, such as Alvin, Atlas, Ava, Blair, Bluford, Camden, Colp, Hickory, Lamont, Ridgway, and Senachwine soils. Second, erosion on farmland results in the sedimentation and pollution of streams. Controlling erosion minimizes this pollution and improves the quality of water for municipal and recreational uses and for fish and other wildlife.

Erosion-control measures provide protective plant cover, increase the rate of water infiltration, and reduce the runoff rate. A cropping system that keeps plants on the surface for extended periods reduces the hazard of erosion and preserves the productive capacity of the soils. Including forage crops, such as grasses and legumes, in the cropping sequence helps to control erosion in the more sloping areas. It also provides nitrogen and improves tilth for the next crop.

Terraces reduce the hazard of erosion by shortening the slopes and by controlling runoff (fig. 23). If a tile outlet terrace is used, the water that collects behind the terrace is removed by tile at a slow, controlled rate.

Grassed waterways reduce the hazard of erosion by providing a stable channel for water runoff on sloping land (fig. 24).

Conservation buffer strips and riparian areas can help to maintain stream channels and inhibit runoff. A stream channel without trees is likely to slump, but a protected riparian area can help to maintain the stream channel.

Contour farming involves conducting tillage or other fieldwork along the contour of a slope rather than perpendicular to it. This practice helps to control erosion because it results in the formation of small ridges perpendicular to the slope of the land. The ridges greatly reduce the velocity of the water moving downhill.

Figure 23.—Grass-backed terraces established on the contour help to control erosion in this cultivated area of Senachwine soils.

Figure 24.—A well maintained grassed waterway is an excellent way to control sediment loss in the less sloping areas.

Stripcropping, although not used widely in the survey area, is an effective erosion-control measure if used in combination with other methods. It involves alternating rows or strips of one crop with rows of another crop that has a different rate of maturity and a different canopy cover. The rows are planted on the contour. The resulting vegetative cover reduces the hazard of erosion by protecting the surface from the impact of raindrops.

Most of the cropland in Clark County can be protected from erosion by using a conservation tillage system. Conservation tillage includes any noninversion tillage practice that keeps a protective amount of residue on the surface throughout the year. The crop residue increases the rate of water infiltration by improving tilth. It also protects the surface from the beating action of raindrops, prevents surface crusting, and provides a more friable seedbed for good germination.

Chisel tillage is a common system of conservation tillage used in Clark County. This system leaves crop residue on 20 to 60 percent of the surface. The extent of the coverage depends on the type of chisel plow used, the speed with which the equipment moves through the field, and the kind of crop planted. Chisel tillage often follows stalk chopping in the fall or is done immediately prior to planting in the spring.

In no-till systems, a grain crop is planted directly in a cover crop, sod, or the crop residue of the previous year. A special planter that disturbs only the row area is used. Herbicides are used to control competing vegetation. The nearly complete ground cover protects the soil from the impact of raindrops and helps to control erosion caused by runoff.

Erosion control through conservation tillage and cropping systems is effective alone or in combination on most of the farmland in the county. The combination used and its effectiveness depend on soil characteristics and topography. Information about the design of erosion-control practices for each kind of soil is provided in the Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Drainage Systems

Drainage systems consist of subsurface tile drains, surface inlets, open drainage ditches, or a combination of these. They have been installed in most areas of poorly drained and somewhat poorly drained soils in the county (fig. 25). As a result, these soils are adequately drained for the crops commonly grown in the area. Some areas of poorly drained soils require surface tile inlets or shallow surface ditches to remove ponded water. Some areas of somewhat poorly drained soils are wet long enough that productivity may be reduced unless they are artificially drained. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning.

Figure 25.—Using drainage tile in some soils, such as Drummer silty clay loam, allows earlier planting and higher yields.

The design of surface and subsurface drainage systems varies with the kind of soil and the availability of drainage outlets. Some areas of poorly drained soils in depressions require a combination of surface drains and tile drains. The tile should be more closely spaced in the more slowly permeable soils than in the more rapidly permeable soils. Manipulating drainage can allow the producer to conserve moisture, manage weeds and insects, and limit the leaching of nutrients and chemicals.

Further information about drainage systems is provided in the Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered (Olson and Lang, 2000; Olson and others, 2000).

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Yields for grass-legume pasture also are shown in table 7. Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields in the table reflect the productive capacity of each soil for each of the principal crops and pasture plants. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 7 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, or wildlife habitat.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section “Soil Series and Detailed Soil Map Units” and in table 7.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in Illinois has been the conversion of some prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that generally are less productive than prime farmland.

About 250,812 acres, or nearly 73 percent of the total acreage in Clark County, meets the requirements for prime farmland. This land is generally used for cultivated crops, mainly corn and soybeans. Prime farmland is located throughout the county.

The map units in the survey area that are considered prime farmland are listed in table 8. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. Some of the soil qualities that affect use and management are described under the heading “Soil Series and Detailed Soil Map Units.”

Hydric Soils

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002).

These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2006) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 9 lists the map units that include hydric soils, either as major components or as soils of minor extent. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   - B. are poorly drained or very poorly drained and have either:
     - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
     - 2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
     - 3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. In Clark County, such soils as Ade, Alvin, Carmi, Darwin, Disco, Jules, Lamont, Shiloh, and Stonelick soils have a surface layer that is susceptible to wind erosion. These soils make up approximately 5.2 percent of the county. They have a surface layer of fine sandy loam or sandy loam, have a high amount of finely divided calcium carbonate in the surface layer, or have a high content of clay in the surface layer. Field windbreaks can be beneficial in areas of these soils. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

Forestland

In 1985, 62,400 acres, or about 19 percent of the acreage in Clark County, was forestland (Iverson and others, 1989). Most of the forestland acres are privately owned. The most common trees in the uplands are white oak, black oak, northern red oak, shagbark hickory, white ash, green ash, sugar maple, silver maple, box elder, black walnut, black cherry, and American elm. The most common trees on flood plains are cottonwood, sycamore, willow, bur oak, pin oak, swamp white oak, hackberry, and silver maple.

The remaining forestland acres are predominantly in areas that are too steep, too wet, or too isolated for cultivation. Most of these areas are along the drainageways of the North Fork Embarras and Wabash Rivers and their tributaries (fig. 26). If they are properly managed, the soils in these areas are generally well suited to growing high-quality trees.

The productivity of many of the forestland stands could be improved with proper management. Excluding livestock from the forestland, providing protection from fire, insects, and diseases, using proper logging methods, and applying proven silvicultural methods to enhance growth and regeneration are management practices that are commonly needed in these areas.

Table 11 can help woodland owners or forest managers plan the use of soils for wood crops. Only those soils commonly used for wood crops are listed.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value,

Figure 26.—Sugar maple and other deciduous trees along the Wabash River. Hickory soils are on the lower parts of the side slopes, and Menfro and Muren soils are on ridgetops and the upper side slopes.

and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or online at http://soils.usda.gov/technical/.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Suggested trees to plant are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreation

The demand for recreational facilities is increasing throughout Clark County. Public lands available for recreation include Clark County Fairgrounds, Rocky Branch Nature Preserve, American Beech Woods Nature Preserve, West Union Park, Lincoln Trail State Park, and Mill Creek County Park. Public lakes and rivers, including Lincoln Trail Lake, Mill Creek Lake, and the North Fork Embarras and Wabash Rivers and their tributaries, offer public boating and fishing opportunities. Other small areas throughout the county provide playgrounds, athletic fields, golf courses, fishing ponds, camping and picnic areas, hunting areas, and other facilities.

The potential for further recreational development is favorable throughout the county. The soils having the best potential for such development are in the uplands along the banks and tributaries of the North Fork Embarras and Wabash Rivers.

These soils are in areas where the hilly terrain, wooded slopes, and numerous streams provide a variety of locations suited to recreational uses.

The soils of the survey area are rated in tables 12a and 12b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 12a and 12b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas (fig. 27). For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be

Figure 27.—The gravel base at this campsite in an area of Xenia soils provides drainage and keeps the site stable during wet periods throughout the year.

dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones (fig. 28). The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Figure 28.—A playground in an area of Xenia silt loam, 2 to 5 percent slopes. The playground functions well because the seasonal wetness of the soil was addressed in the design.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Much of Clark County is located in an area that transitions from a broad, tall-grass prairie that contained wet meadows, marshes, and areas of open water to an area dominated by central hardwood forest habitat. This area has traditionally provided valuable nesting and stop-over habitat for migratory waterfowl and important habitat for other wetland and openland wildlife species. Forestland areas, especially those along creeks and on moderately steep to very steep landforms, provide habitat for turkey, songbirds, birds of prey, and many mammals, including deer, squirrel, rabbits, fox, and beaver.

As the county was settled, the conversion of land for agriculture use altered these natural communities and affected the wildlife species associated with them. Long gone are the wolf, bison, badger, black bear, cougar, and elk that roamed the area as little as 150 years ago. The landscape of Clark County is now a mosaic of urban development, cropland, pasture, areas of forestland, wetlands, and waterways that

support wildlife species that have adapted to the human-altered landscape. These species include whitetail deer, fox, coyotes, mourning doves, pheasants, squirrels, cardinals, and raccoons. Some species have been successfully reintroduced in Illinois, including the bald eagle and the river otter.

The largest areas in Clark County managed for wildlife are Mill Creek County Park, managed by the Clark County Park District, and Lincoln Trail State Park, managed by the Illinois Department of Natural Resources. Mill Creek Park is composed of 2,600 acres of land and an 811-acre lake. Lincoln Trail State Park has 1,023 acres of land and a 146-acre lake. Many outdoor activities are available at both parks, including camping, fishing, and hiking (Clark County, Illinois, 2007; Illinois Department of Natural Resources, 2007).

Other areas used as wildlife habitat are not necessarily set aside for this purpose. Wildlife habitat is commonly a secondary use in areas used for other purposes, such as farming. For example, the large areas of nearly level and gently sloping soils used for cultivated crops and pasture are also generally well suited to use as habitat for openland wildlife. Most areas in the county can be improved for wildlife habitat by providing needed food, cover, and water.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants (fig. 29).

Figure 29.—Warm-season grasses planted for wildlife cover in an area of Stoy soils at Mill Creek County Park.

In table 13, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley (fig. 30).

Figure 30.—A whitetail deer in a field of wheat stubble after harvest in an area of Hoyleton soils.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are lovegrass, orchardgrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, ragweed, wildrye, and Illinois bundleflower (fig. 31).

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, hickory, sycamore, cottonwood, elm, sassafras, serviceberry, gray dogwood, flowering dogwood, hazelnut, sumac, and raspberry. The best choices for planting on soils rated *good* are native plants, such as hazelnut, gray dogwood, silky dogwood, oak, and hickory (fig. 32).

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are white pine, Norway spruce, balsam fir, red cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

Shallow water areas can often be included in the design of ponds and lakes by utilizing the naturally shallow end of the impoundment. Wetland areas can also be created by installing water control valves on field drainage tiles, allowing for flooding of fields at times not necessary for crop production, such as after fall harvest. Valves can be opened to drain fields for spring planting while allowing soil moisture to remain high enough for good productivity. Islands, wood duck boxes, and an even mix of open water and aquatic plants help to provide optimum wildlife habitat in permanent wetland areas for wildlife (fig. 33).

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

The habitat for openland wildlife can be improved by seeding roadsides, fence rows, and wildlife travel lanes to perennial plants and legumes, such as smooth bromegrass, timothy, redtop, bluegrass, alfalfa, red clover, ladino clover, and alsike clover. Grassy areas can be enhanced with perennial native prairie grasses, such as big bluestem, little bluestem, switchgrass, and indiangrass. Protecting nesting cover from fire, traffic, grazing, mowing, or other disturbance until after the nesting season also is important.

Figure 31.—Native prairie plants provide food and cover for upland wildlife in an area of Senachwine soils.

Figure 32.—Oak, hickory, and dogwood trees on side slopes in an area of Hickory soils. Native warm-season grasses and prairie plants are in areas of the less sloping Stoy soils.

Warm-season grasses grow best if periodic prescribed burning is applied. Any existing woody cover should be protected from fire and grazing. Establishing hedgerows and windbreaks of trees and shrubs can provide a source of food and roosting areas. Brush piles can be built for cover along fence rows and in odd-shaped areas that are inconvenient for cultivation. Leaving crop residue on the surface after harvest and leaving waste grain in the fields can provide cover and food for wildlife throughout the winter. Also, parts of fields that are adjacent to areas of wildlife cover can be left unharvested.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for woodland wildlife can be improved by protecting native trees, shrubs, and prairie plants from grazing by livestock. Also, protecting the areas from uncontrolled fire helps to minimize the destruction of the leaf mulch and of desirable young trees, shrubs, and sprouts that provide food and cover. Establishing hedgerows, farm windbreaks, brush piles, food plots, and strips of grass or grass-legume mixtures can provide additional food and cover. Plantings for food and cover may be difficult to establish and maintain in the more sloping areas because of the hazard of erosion. Food plots of grain or seed crops should be established in the less sloping areas and should be planted on the contour. Leaving dead trees to provide den sites for raccoon, woodpeckers, opossum, and other cavity-dwelling species also improves the habitat.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas (fig. 34). Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, frogs, snakes, and turtles.

Measures that improve the habitat for wetland wildlife include delaying or limiting the cultivation and planting of commodity crops in the shallow depressions that are

Figure 33.—Wetlands in an area of Darwin and Petrolia soils provide habitat for hydrophytic vegetation, aquatic animals, and migratory birds.

Figure 34.—The frequently flooded Darwin and Petrolia soils along the Wabash River support hydrophytic vegetation and provide cover and habitat for wildlife. These silver maple trees are tolerant of wetness and help to stabilize the streambank during periods of flooding.

subject to ponding. Areas of smartweeds, bulrushes, burreeds, and barnyard grasses should be protected. Japanese millet, milo, and short corn varieties can be planted to provide food and cover. Blocking natural channels and manmade drainage systems can create shallow ponds and marshes. Pits dug in poorly drained or very poorly drained soils should be at least 30 feet in diameter and 2 to 3 feet deep. Such pits provide open water through the spring and early summer and thus encourage nesting by ducks. Wetland areas should be protected from grazing by livestock.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 14a and 14b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation

is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 15a and 15b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to

permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 16a and 16b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 16a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 16b, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of reclamation material, roadfill, and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of these materials. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well

the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 17a, 17b, and 17c give information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; grassed waterways; terraces and diversions; tile drains and underground outlets; and irrigation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Table 17a

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5

feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 17b

Grassed waterways and surface drains are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Tile drains and underground outlets are used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to undisturbed soils that commonly have a seasonal high water table within a depth of about 3.5 feet. Current land use is not considered in the ratings. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains. Limitations affecting areas where the tile line passes through soils in which the water table is generally below a depth of 3.5 feet are provided in the table that includes the column “shallow excavations,” which is described under the heading “Building Site Development.”

Table 17c

Irrigation is the controlled application of water to supplement rainfall and support plant growth (fig. 35). The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water

Figure 35.—Irrigation is common in areas of Carmi, Disco, and Stockland soils on the sandy and gravelly terraces along the Wabash River.

capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

In a *sprinkler* irrigation system, water is sprayed over the soil surface through pipes or nozzles from a pressure system.

In a *drip or trickle* irrigation system, water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics. These results are reported in table 23.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 18 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 36). “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1

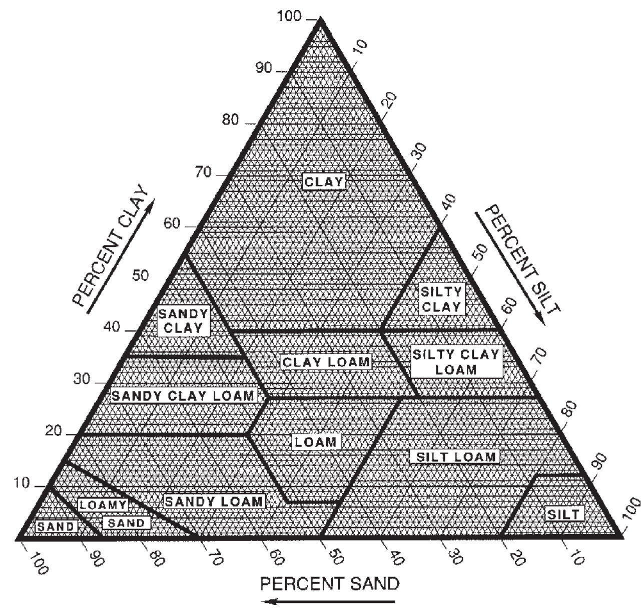


Figure 36.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 19 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and

management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 19, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factors are shown in table 19 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (http://soils.usda.gov).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 20 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 20, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 21 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Water table refers to a saturated zone in the soil. Table 21 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months* in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

The table also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 21 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* of flooding are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 22 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the thickness and hardness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Engineering Index Test Data

Table 23 shows laboratory test data for several pedons sampled at carefully selected sites in the survey area. The pedons are representative of the series described in the section “Soil Series and Detailed Soil Map Units.” The soil samples were tested by the Illinois Department of Transportation, Springfield, Illinois.

The testing methods generally are those of the American Association of State Highway and Transportation Officials (AASHTO) or the American Society for Testing and Materials (ASTM).

The tests and methods are Moisture density—T 99 (AASHTO), D 698 (ASTM); Mechanical analysis—T 88 (AASHTO), D 422 (ASTM), D 2217 (ASTM); Liquid limit—T 89 (AASHTO), D 4318 (ASTM); Plasticity index—T 90 (AASHTO), D 4318 (ASTM); AASHTO classification—M 145 (AASHTO), D 3282 (ASTM); and Unified classification—D 2487-00 (ASTM).

References

Access Genealogy. Accessed October 1, 2007. Indian tribal records Web site. [http://www.accessgenealogy.com/native/illinois/index.htm]

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Awalt, F.L. 1979. Soil survey of Clark County, Illinois. U.S. Department of Agriculture, Soil Conservation Service. Illinois Agricultural Experiment Station Soil Report 103.

Brady, Nyle C. 1984. The nature and properties of soils. 9th edition. Cornell University and U.S. Agency for International Development.

Clark County, Illinois. Tourism and travel guide. Accessed October 1, 2007. [http://www.clarkcountyil.org/tourism_page.htm]

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Fehrenbacher, J.B., K.R. Olson, and I.J. Jansen. 1986. Loess thickness and its effect on soils in Illinois. University of Illinois at Urbana-Champaign, College of Agriculture. Agricultural Experiment Station Bulletin 782.

Follmer, L.R. 1982. The geomorphology of the Sangamon soil: Its spatial and temporal attributes. The Binghamton Symposia in Geomorphology: International Series 12.

Frankie, W.T., B.G. Huff, R.J. Jacobson, M.M. Killey, D.L. Reinertson, and V. May. 1994. Guide to the geology of the Casey-Westfield area, Clark and Cumberland Counties, Illinois. Illinois State Geological Survey, Field Trip Guidebook 1994D.

Hansel, A.K., and W.H. Johnson. 1996. Wedron and Mason Groups: Lithostratigraphic reclassification of deposits of the Wisconsin Episode, Lake Michigan Lobe area. Department of Natural Resources, Illinois State Geological Survey. Bulletin 104.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Illinois Agricultural Statistics Service. Web site. Accessed October 2, 2007. [http://www.agstats.state.il.us/website/agstats.htm]

Illinois Department of Natural Resources. 1996. Digital data of Illinois. Illinois Geographical Information Systems.

Illinois Department of Natural Resources. Web site. Accessed October 2, 2007. [http://dnr.state.il.us/lands/landmgt/parks/R3/lincoln.htm]

Illinois Department of Transportation. Web site. Accessed October 2, 2007. [http://www.dot.state.il.us/tpublic.html]

Illinois Environmental Protection Agency. Web site. Accessed October 2, 2007. [http://www.epa.state.il.us/water/drinking-water-watch/index.html]

Illinois GenWeb Project. Clark County. Accessed October 3, 2007. [http://www.rootsweb.com/~ilclark/]

Illinois State Geological Survey. Web site. Accessed October 3, 2007. [http://www.isgs.uiuc.edu]

Illinois State Museum. Web site. Accessed October 2, 2007. [http://www.museum.state.il.us/]

Iverson, L.R., R.L. Oliver, D.P. Tucker, P.G. Risser, C.D. Burnett, and R.G. Rayburn. 1989. The forest resources of Illinois: An atlas and analysis of spatial and temporal attributes. Illinois Natural History Survey, Special Publication 11.

Jenny, Hans. 1941. Factors of soil formation.

Killey, Myrna M. 1998. Illinois ice age legacy. Illinois State Geological Survey, Geoscience Education Series 14.

Leigh, D.S., and J.C. Knox. 1993. AMS radiocarbon age of the Upper Mississippi Valley Roxana Silt. Quaternary Research 39: 282-289.

Leighton, M.M., G.E. Ekblaw, and L. Horberg. 1948. Physiographic divisions of Illinois. Illinois State Geological Survey, Report of Investigations 129.

Lineback, J.A., and others. 1979. Quaternary deposits of Illinois. Illinois State Geological Survey. Map 1:500,000.

MacClintock, Paul. 1929. Physiographic divisions of the area covered by the Illinoian drift-sheet in southern Illinois. Volume I. State Geological Survey, Report of Investigations 19.

Marshall, Illinois. Web site. Accessed October 3, 2007. [http://www.marshall-il.com/index.asp]

Masters, John M., Viju C. Ipe, Lisa R. Smith, and Michael Falter. 1999. Directory of Illinois mineral producers and maps of extraction sites 1997. Department of Natural Resources. Illinois State Geological Survey, Illinois Minerals 117.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Olson, K.R., and J.M. Lang. 2000. Optimum crop productivity ratings for Illinois soils. University of Illinois, College of Agricultural, Consumer and Environmental Sciences. Bulletin 811.

Olson, K.R., J.M. Lang, J.D. Garcia-Paredes, R.N. Majchrzak, C.I. Hadley, M.E. Woolery, and R.M. Rejesus. 2000. Average crop, pasture, and forestry productivity ratings for Illinois soils. University of Illinois, College of Agricultural, Consumer and Environmental Sciences. Bulletin 810.

Ortman, L.K. Genealogy trails. Accessed October 3, 2007. [http://genealogytrails.com/ill/clark/]

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://soils.usda.gov/technical/]

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2003. Keys to soil taxonomy. 9th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture. 1961. Land capability classification. Soil Conservation Service. U.S. Department of Agriculture Handbook 210.

United States Department of Agriculture, National Agricultural Statistics Service. Census of agriculture, county data for 1997 and 2002. Accessed October 3, 2007. [http://www.nass.usda.gov/index.asp]

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://soils.usda.gov/technical/]

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://soils.usda.gov/technical/]

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://soils.usda.gov/]

United States Department of Commerce, Bureau of the Census. 2006 population estimates by county. Accessed October 3, 2007. [http://www.census.gov/]

Willman, H.B., E. Atherton, T.C. Buschbach, C. Collinson, J.C. Frye, M.E. Hopkins, and J.A. Simon. 1975. Handbook of Illinois stratigraphy. Illinois State Geological Survey Bulletin 95.

Willman, H.B., and J.C. Frye. 1970. Pleistocene stratigraphy of Illinois. Illinois Geological Survey Bulletin 94.

Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basal till. Compact till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Batavia facies (geology). An informal separation of the Henry Formation. The Batavia facies occurs on outwash plains and consists of stratified silt loam to gravelly sandy loam with thin bands of finer or coarser material.

Batestown Member (geology). The medium textured, lowermost unit of diamicton in the Lemont Formation. Diamicton of the Batestown Member generally consists of calcareous, dark gray to gray silt loam to loam that contains lenses of gravel, sand, silt, and clay. Locally, the Batestown Member is finer texturally and therefore similar to the Yorkville Member.

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cahokia Formation (geology). Deposits on flood plains and in channels of modern rivers and streams. Mostly poorly sorted sand, silt, or clay containing local deposits of sandy gravel.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Calcium carbonate. A common mineral in sediments and soils.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Carmi facies (geology). Largely quiet-water lake sediments dominated by well bedded silt and some clay. (See Equality Formation.)

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. See Terracettes.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Congeliturbate. Soil material disturbed by frost action.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delavan Member (geology). The lower part of the Tiskilwa Formation deposited between 26,000 and 18,500 radiocarbon years ago. Consists of calcareous, brownish gray to pink or violet gray loam diamicton. Reclassified to include the former Fairgrange Till Member.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diamicton. A generic term for a till-like mixture of unsorted, unstratified rock debris composed of a wide range of particle sizes. Use of this term carries no suggestion about how such debris was formed or deposited.

Diatomaceous earth. A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill. See Mine spoil.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

End moraine. A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Equality Formation (geology). This formation consists of gray to red silt and clay, generally shows evidence of bedding structures, and occurs above the Sangamon Geosol. Predominantly occurs as a fine grained lacustrine sediment. Ranges from 26,000 radiocarbon years to present in age. (See Mason Group.)

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fairgrange Till Member (geology). Abandoned nomenclature. Pink, reddish brown, and brownish gray sandy till in east-central Illinois. (See Delavan Member.)

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Farmdale Geosol. Refers to soils that formed during the Farmdalian, which in Illinois represents the second substage (about 28,000 to 22,000 years ago) of the Wisconsinan Episode during the Pleistocene. Soil development took place during this period. Most areas of this geosol have been either destroyed by the glacial advances of the Wisconsinan Episode or covered by Peoria Silt. (See Geosol; Pleistocene.)

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geosol. A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. (See Paleosol.)

Glacial (geology). This term embraces both the processes and results of erosion and deposition arising from the presence of an ice mass (glacier) on a landscape.

Glacial lake (relict). An area formerly occupied by a glacial lake. (See Glaciolacustrine deposits.)

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Glasford Formation (geology). Encompasses all till members of Illinoian age in Illinois.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground moraine. An extensive, fairly even layer of till having an uneven or undulating surface.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Haeger Member (geology). The coarse grained, uppermost unit of diamicton in the Lemont Formation. The Haeger Member consists of calcareous, light gray to gray, gravelly sandy loam diamicton that contains lenses of gravel, sand, silt, and clay.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Henry Formation (geology). Consists of stratified sand and gravel that occurs above the Sangamon Geosol.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Holocene (geology). Postglacial age or time period (interglacial). About 0 to 12,600 years before present. (See Quaternary.)

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illinoian (geology). In Illinois, represents the glacial age of ice advance preceding the Sangamonian and Wisconsinan and following the Yarmouthian and pre-Illinoian during the Pleistocene. This glaciation practically covered the entire State of Illinois with the exception of small portions in northwestern, western, and southern Illinois. (See Pleistocene.)

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Interglacial. A period of time between major glacial stages. (See Holocene, Sangamonian, and Yarmouthian.)

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation include:

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.
Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.
Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.
Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.
Leaching. The removal of soluble material from soil or other material by percolating water.
Lemont Formation (geology). The Lemont Formation of the Wedron Group is the succession of fine to coarse textured gray diamicton units that overlie the Tiskilwa Formation. The Lemont Formation has four differentiated members: the Lemont Member, the Batestown Member, the Yorkville Member, and the Haeger Member. In northern Illinois, the Lemont Formation is not subdivided. The Lemont Formation consists of calcareous, gray, fine to coarse textured diamicton units that contain lenses of gravel, sand, silt, and clay.
Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.
Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.
Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.
Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.
Low strength. The soil is not strong enough to support loads.
Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.
Mackinaw facies (geology). An informal separation of the Henry Formation. The Mackinaw facies consists of well sorted sand and gravel outwash deposits in valleys leading outward from glacier fronts. Preserved today as terraces beneath Holocene deposits in major stream and river valleys.
Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.
Mason Group (geology). The Mason Group comprises three proglacial and one postglacial sorted sediment formations that represent distinct stratigraphic layers based on grain size and bedding characteristics. The proglacial units are Roxana Silt, Peoria Silt, and the Henry Formation. The postglacial unit is the Equality Formation.
Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.
Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Morton Tongue (geology). The lower part or tongue of Peoria Silt. It is massive, gray to gray-tan, calcareous silt. It ranges in thickness up to 10 feet and is characteristically identified in areas below materials of the Wedron Group. Deposition occurred 25,000 to 20,000 radiocarbon years ago. (See also Richland loess and Peoria Silt.)

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleosol. A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. (See Geosol.)

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Parkland facies (geology). The Parkland facies is an informal separation of the Henry Formation occurring as dunes in outwash areas and is an informal separation of Peoria Silt if interfingered with silt in bluff areas. It consists of well sorted eolian sand deposits in the form of dunes or sheetlike deposits.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to

100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Peoria Silt (geology). Light yellow tan to gray calcareous silt that grades from sandy silt in the bluffs to clayey silt away from the bluffs. The upper part of Peoria Silt is also informally known as Richland loess where it overlies the Wedron Group. The lower part, where buried by materials of the Wedron Group, is known as the Morton Tongue. Peoria Silt covers most of Illinois and ranges in thickness from 80 feet in bluff areas along the Mississippi River to 1 or 2 feet in areas away from the bluffs. Deposition occurred 25,000 to 12,000 years ago. (See Mason Group.)

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piatt Member (geology). The upper diamicton facies of the Tiskilwa Formation deposited between 19,000 and 18,500 radiocarbon years ago. The Piatt Member consists of gray loam diamicton containing lenses of sorted sediment. Textures may vary, especially near the surface, where this member is commonly interbedded with stratified sediment.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Pleistocene (geology). The period in a geologic time series that encompasses all glacial and interglacial stages. Includes the Wisconsinan, Sangamonian, Illinoian, Yarmouthian, and pre-Illinoian. The period covered is about 12,600 to 2 million years before present.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Quaternary (geology). The latest period of time in the stratigraphic column, about 0 to 2 million years before present, represented by local accumulations of glacial (Pleistocene) and postglacial (Holocene) deposits. An artificial division of time used to separate pre-human from post-human sedimentation.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and

manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Richland loess (geology). An informal classification for the upper tongue of Peoria Silt that overlies the Wedron Group and the Henry and Equality Formations of the Mason Group. It is massive tan silt that is calcareous below the leach zone. The surface of modern soils in upland areas of the Wisconsinan till plain forms the upper boundary of this unit. The Richland loess ranges in thickness from 20 feet in bluff areas along the Illinois River to 1 or 2 feet in areas away from the bluffs. Deposition occurred 20,000 to 12,000 years ago. (See also Morton Tongue and Peoria Silt.)

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.
Root zone. The part of the soil that can be penetrated by plant roots.
Roxana Silt (geology). Brownish red and gray silt loam. Typically leached of carbonates. It overlies the Sangamon Geosol and is typically bounded above by Peoria Silt. It can be distinguished from Peoria Silt by being darker brown and more clayey. Deposition occurred 75,000 to 27,000 radiocarbon years ago. (See Mason Group.)
Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.
Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.
Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.
Sandstone. Sedimentary rock containing dominantly sand-sized particles.
Sangamonian (geology). In Illinois, represents an interglacial age between the Illinoian and Wisconsinan glacial stages during the Pleistocene. (See Pleistocene; Geosol.)
Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.
Saturated hydraulic conductivity (Ksat). See Permeability.
Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.
Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.
Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)
Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.
Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.
Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.
Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.
Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Strongly sloping	5 to 10 percent
Moderately steep	10 to 18 percent
Steep	18 to 35 percent
Very steep	35 percent and higher

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of

climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice

common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talf. A geomorphic component of flat plains consisting of an essentially flat and broad area dominated by closed depressions and a nonintegrated or poorly integrated drainage system. Precipitation tends to pond locally, and lateral transport is slow both above and below ground. These conditions favor the accumulation of soil organic matter and a retention of fine earth sediments; better drained soils are commonly adjacent to drainageways.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Tiskilwa Formation (geology). The lowermost sequence of red to gray diamicton units of the Wedron Group. The Tiskilwa Formation has three differentiated members: the Tiskilwa Member, the Delavan Member, and the Piatt Member. In northern Illinois, the Lemont Formation is not subdivided. The Tiskilwa Formation consists of calcareous, reddish gray to gray, medium textured (clay loam to loam) diamicton units that contain lenses of gravel, sand, silt, and clay. Typically it oxidizes to reddish brown, brown, or yellowish brown.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Vandalia Till Member (geology). The Vandalia Till Member of the Glasford Formation consists of clay loam diamicton. It is generally gray and calcareous, except where weathered. It is commonly 25 to 30 feet thick and bounded at the top by the Sangamon Geosol.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Wasco facies (geology). The Wasco facies is an informal separation of the Henry Formation. It consists of poorly sorted sand and gravel outwash deposits in kames, eskers, and deltas.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Wedron Group (geology). Mostly diamicton of the Wisconsinan Age.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be

easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Wisconsinan (geology). In Illinois, represents the last glacial stage of ice advance during the Pleistocene. Follows the Sangamonian interglacial stage. (See Pleistocene.)

Yarmouthian (geology). In Illinois, represents an interglacial stage between the pre-Illinoian and Illinoian glacial stages during the Pleistocene. (See Pleistocene.)

Yorkville Member (geology). The Yorkville Member is the middle unit of diamicton in the Lemont Formation. The Yorkville Member generally consists of calcareous gray, fine textured (silty clay to silty clay loam) diamicton that contains lenses of gravel, sand, silt, and clay. It typically oxidizes to olive brown. Locally, the Yorkville Member is coarser texturally and therefore similar to the Batestown Member.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Palestine, Illinois)

Month	Temperature: Average daily maximum	Temperature: Average daily minimum	Temperature: Average	Temperature: 2 years in 10 will have-- Maximum temperature higher than--	Temperature: 2 years in 10 will have-- Minimum temperature lower than--	Temperature: Average number of growing degree days*	Precipitation: Average	Precipitation: 2 years in 10 will have-- Less than--	Precipitation: 2 years in 10 will have-- More than--	Precipitation: Average number of days with 0.10 inch or more	Precipitation: Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	37.2	20.7	28.9	65	-11	4	2.57	1.02	3.87	5	6.2
February---	43.0	25.5	34.3	71	-6	9	2.68	1.50	3.72	5	4.3
March------	54.5	35.1	44.8	81	10	71	3.80	2.08	5.32	7	2.7
April------	65.9	44.2	55.1	87	24	204	3.98	2.30	5.47	8	.2
May--------	76.2	54.0	65.1	93	34	464	4.67	2.45	6.62	7	.0
June-------	84.9	62.6	73.7	98	44	711	3.81	2.20	5.24	6	.0
July-------	88.1	66.3	77.2	100	51	843	4.16	2.19	5.89	6	.0
August-----	86.3	64.9	75.6	98	50	793	3.80	2.00	5.38	5	.0
September--	80.0	55.2	67.6	95	35	528	3.49	1.21	5.38	5	.0
October----	68.5	45.2	56.9	88	25	243	2.94	1.78	3.98	4	.1
November---	54.1	36.1	45.1	77	14	65	3.90	1.98	5.58	6	1.0
December---	41.8	26.0	33.9	67	-6	11	3.15	1.41	4.63	6	4.1
Yearly:											
Average---	65.0	44.6	54.8	---	---	---	---	---	---	---	---
Extreme---	107	-23	---	101	-15	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,946	42.95	34.28	49.22	70	18.6

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Palestine, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 7	Apr. 16	Apr. 27
2 years in 10 later than--	Apr. 2	Apr. 11	Apr. 23
5 years in 10 later than--	Mar. 22	Apr. 1	Apr. 14
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 24	Oct. 12	Sept. 23
2 years in 10 earlier than--	Oct. 30	Oct. 18	Oct. 2
5 years in 10 earlier than--	Nov. 11	Oct. 30	Oct. 17

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Palestine, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	212	187	159
8 years in 10	220	196	168
5 years in 10	234	212	186
2 years in 10	249	228	203
1 year in 10	257	237	213

Table 4.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
*Ade	Sandy, mixed, mesic Lamellic Argiudolls
Alvin	Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs
Ambraw	Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls
Armiesburg	Fine-silty, mixed, superactive, mesic Fluventic Hapludolls
*Atlas (severely eroded)	Fine, smectitic, mesic Aeric Endoaqualfs
*Atlas (moderately eroded)	Fine, smectitic, mesic Aquic Hapludalfs
Ava	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Blair	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Bluford	Fine, smectitic, mesic Aeric Fragic Epiaqualfs
Brenton	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Brooklyn	Fine, smectitic, mesic Mollic Albaqualfs
Brouillett	Fine-loamy, mixed, superactive, mesic Aquic Cumulic Hapludolls
Camden	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Carmi	Coarse-loamy, mixed, superactive, mesic Pachic Hapludolls
Channahon	Loamy, mixed, superactive, mesic Lithic Argiudolls
Chauncey	Fine, smectitic, mesic Typic Argialbolls
Cisne	Fine, smectitic, mesic Mollic Albaqualfs
*Colp	Fine, smectitic, mesic Oxyaquic Hapludalfs
Cowden	Fine, smectitic, mesic Mollic Albaqualfs
Darwin	Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls
Disco	Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls
Drummer	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Ebbert	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Genesee	Fine-loamy, mixed, superactive, mesic Fluventic Eutrudepts
Hickory	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Hosmer	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Hoyleton	Fine, smectitic, mesic Aquollic Hapludalfs
Huey	Fine-silty, mixed, superactive, mesic Typic Natraqualfs
Jules	Coarse-silty, mixed, superactive, calcareous, mesic Typic Udifluvents
Lamont	Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs
Menfro	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
*Millbrook	Fine-silty, mixed, superactive, mesic Aquollic Hapludalfs
Muren	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Newberry	Fine-silty, mixed, superactive, mesic Mollic Endoaqualfs
Oconee	Fine, smectitic, mesic Udollic Endoaqualfs
Orthents	Loamy, mesic Udorthents
Petrolia	Fine-silty, mixed, superactive, nonacid, mesic Fluvaquentic Endoaquepts
Pierron	Fine, smectitic, mesic Typic Albaqualfs
Racoon	Fine-silty, mixed, superactive, mesic Typic Endoaqualfs
Ridgway	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Senachwine	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Sexton	Fine, smectitic, mesic Typic Endoaqualfs
Shiloh	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Shoals	Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts
*Starks	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Stockland	Loamy-skeletal, mixed, superactive, mesic Pachic Hapludolls
Stonelick	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents
Stoy	Fine-silty, mixed, superactive, mesic Fragiaquic Hapludalfs
Tice	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Virden	Fine, smectitic, mesic Vertic Argiaquolls
Weir	Fine, smectitic, mesic Typic Endoaqualfs
Whitaker	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
Whitson	Fine-silty, mixed, superactive, mesic Typic Endoaqualfs
*Wirt	Fine-loamy, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Wynoose	Fine, smectitic, mesic Typic Albaqualfs
Xenia	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
2A	Cisne silt loam, 0 to 2 percent slopes	27,531	8.5
3A	Hoyleton silt loam, 0 to 2 percent slopes	1,849	0.6
3B	Hoyleton silt loam, 2 to 5 percent slopes	3,313	1.0
8F	Hickory silt loam, 18 to 35 percent slopes	7,982	2.5
8G	Hickory loam, 35 to 60 percent slopes	3,187	1.0
12A	Wynoose silt loam, 0 to 2 percent slopes	8,121	2.5
13A	Bluford silt loam, 0 to 2 percent slopes	4,636	1.4
13B2	Bluford silt loam, 2 to 5 percent slopes, eroded	11,403	3.5
14B	Ava silt loam, 2 to 5 percent slopes	11,106	3.4
14C2	Ava silt loam, 5 to 10 percent slopes, eroded	2,635	0.8
31A	Pierron silt loam, 0 to 2 percent slopes	26	*
48A	Ebbert silt loam, 0 to 2 percent slopes	12,218	3.8
50A	Virden silt loam, 0 to 2 percent slopes	25	*
79B	Menfro silt loam, 2 to 5 percent slopes	931	0.3
79D2	Menfro silt loam, 10 to 18 percent slopes, eroded	307	*
109A	Racoon silt loam, 0 to 2 percent slopes	1,089	0.3
112A	Cowden silt loam, 0 to 2 percent slopes	12,667	3.9
113A	Oconee silt loam, 0 to 2 percent slopes	853	0.3
113B	Oconee silt loam, 2 to 5 percent slopes	1,441	0.4
116A	Whitson silt loam, 0 to 2 percent slopes	29,043	9.0
122B	Colp silt loam, 2 to 5 percent slopes	490	0.2
122D2	Colp silt loam, 10 to 18 percent slopes, eroded	221	*
131B	Alvin fine sandy loam, 2 to 5 percent slopes	520	0.2
131C2	Alvin fine sandy loam, 5 to 10 percent slopes, eroded	631	0.2
132A	Starks silt loam, 0 to 2 percent slopes	1,770	0.5
134A	Camden silt loam, 0 to 2 percent slopes	241	*
134B	Camden silt loam, 2 to 5 percent slopes	2,189	0.7
134C2	Camden silt loam, 5 to 10 percent slopes, eroded	406	0.1
136A	Brooklyn silt loam, 0 to 2 percent slopes	1,359	0.4
138A	Shiloh silty clay loam, 0 to 2 percent slopes	1,612	0.5
149A	Brenton silt loam, 0 to 2 percent slopes	371	0.1
152A	Drummer silty clay loam, 0 to 2 percent slopes	2,986	0.9
164A	Stoy silt loam, 0 to 2 percent slopes	13,925	4.3
164B	Stoy silt loam, 2 to 5 percent slopes	22,374	6.9
165A	Weir silt loam, 0 to 2 percent slopes	3,892	1.2
175D2	Lamont fine sandy loam, 10 to 18 percent slopes, eroded	288	*
208A	Sexton silt loam, 0 to 2 percent slopes	729	0.2
214B	Hosmer silt loam, 2 to 5 percent slopes	1,753	0.5
218A	Newberry silt loam, 0 to 2 percent slopes	16,646	5.1
219A	Millbrook silt loam, 0 to 2 percent slopes	1,362	0.4
287A	Chauncey silt loam, 0 to 2 percent slopes	552	0.2
291B	Xenia silt loam, 2 to 5 percent slopes	2,336	0.7
315A	Channahon silt loam, 0 to 2 percent slopes	167	*
434A	Ridgway silt loam, 0 to 2 percent slopes	228	*
434B	Ridgway silt loam, 2 to 5 percent slopes	786	0.2
434D2	Ridgway silt loam, 10 to 18 percent slopes, eroded	321	*
453A	Muren silt loam, 0 to 2 percent slopes	1,584	0.5
453B	Muren silt loam, 2 to 5 percent slopes	1,193	0.4
618C2	Senachwine silt loam, 5 to 10 percent slopes, eroded	850	0.3
618C3	Senachwine clay loam, 5 to 10 percent slopes, severely eroded	263	*
618D2	Senachwine silt loam, 10 to 18 percent slopes, eroded	518	0.2
618D3	Senachwine clay loam, 10 to 18 percent slopes, severely eroded	524	0.2
802D	Orthents, loamy, 2 to 20 percent slopes	79	*
830B	Landfills	10	*
842G	Hickory-Rock outcrop complex, 35 to 60 percent slopes	25,217	7.8
864	Pits, quarries	637	0.2
865	Pits, gravel	289	*
927C2	Blair-Atlas silt loams, 5 to 10 percent slopes, eroded	3,032	0.9
927C3	Blair-Atlas silty clay loams, 5 to 10 percent slopes, severely eroded	3,137	1.0
946D2	Hickory-Atlas silt loams, 10 to 18 percent slopes, eroded	5,622	1.7
946D3	Hickory-Atlas clay loams, 10 to 18 percent slopes, severely eroded	2,609	0.8
991A	Cisne-Huey silt loams, 0 to 2 percent slopes	3,342	1.0

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
3028A	Jules silt loam, 0 to 2 percent slopes, frequently flooded	403	0.1
3071A	Darwin silty clay, 0 to 2 percent slopes, frequently flooded	1,254	0.4
3226A	Wirt loam, 0 to 2 percent slopes, frequently flooded	2,963	0.9
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded	1,294	0.4
3288A	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded	2,507	0.8
3302A	Ambraw clay loam, 0 to 2 percent slopes, frequently flooded	1,581	0.5
3424A	Shoals silt loam, 0 to 2 percent slopes, frequently flooded	23,180	7.2
3431A	Genesee silt loam, 0 to 2 percent slopes, frequently flooded	1,304	0.4
3450A	Brouillett silt loam, 0 to 2 percent slopes, frequently flooded	1,419	0.4
3597A	Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded	500	0.2
3665A	Stonelick loam, 0 to 2 percent slopes, frequently flooded	6,222	1.9
7098B	Ade loamy sand, 2 to 5 percent slopes, rarely flooded	646	0.2
7131B	Alvin fine sandy loam, 2 to 5 percent slopes, rarely flooded	178	*
7155A	Stockland gravelly sandy loam, 0 to 2 percent slopes, rarely flooded	968	0.3
7155B	Stockland gravelly sandy loam, 2 to 5 percent slopes, rarely flooded	214	*
7155C	Stockland gravelly sandy loam, 5 to 10 percent slopes, rarely flooded	294	*
7175B	Lamont fine sandy loam, 2 to 5 percent slopes, rarely flooded	553	0.2
7266B	Disco sandy loam, 2 to 5 percent slopes, rarely flooded	2,378	0.7
7286A	Carmi sandy loam, 0 to 2 percent slopes, rarely flooded	4,752	1.5
7434B	Ridgway silt loam, 2 to 5 percent slopes, rarely flooded	750	0.2
7571A	Whitaker loam, 0 to 2 percent slopes, rarely flooded	171	*
8431A	Genesee sandy loam, 0 to 2 percent slopes, occasionally flooded	28	*
8665A	Stonelick fine sandy loam, 0 to 2 percent slopes, occasionally flooded	18	*
M-W	Miscellaneous water	37	*
W	Water	2,647	0.8
	Total	323,685	100.0

* Less than 0.1 percent.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Only the soils that are generally available for use as cropland or pastureland are listed. Absence of an entry indicates that the soil is generally not suited to use as cropland or pastureland)

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
2A:		
Cisne	Ponding, wetness, restricted permeability.	Ponding, wetness, low pH, frost heave.
3A:		
Hoyleton	Wetness, crusting, restricted permeability.	Wetness, low pH.
3B:		
Hoyleton	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
8F:		
Hickory	---	Equipment limitation, low pH, water erosion.
8G:		
Hickory	---	---
12A:		
Wynoose	Ponding, wetness, low pH, restricted permeability.	Ponding, wetness, low pH, frost heave.
13A:		
Bluford	Wetness, restricted permeability.	Wetness, low pH.
13B2:		
Bluford	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
14B:		
Ava	Root-restrictive layer, water erosion, restricted permeability.	Root-restrictive layer, low pH, water erosion.
14C2:		
Ava	Root-restrictive layer, crusting, water erosion, restricted permeability.	Root-restrictive layer, low pH, water erosion.
31A:		
Pierron	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, low pH, frost heave.
48A:		
Ebbert	Ponding, wetness, restricted permeability.	Ponding, wetness, low pH, frost heave.
50A:		
Virden	Ponding, wetness, restricted permeability.	Ponding, wetness, frost heave.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
79B:		
Menfro	Crusting, water erosion	Low pH, water erosion.
79D2:		
Menfro	Crusting, water erosion	Low pH, water erosion.
109A:		
Racoon	Ponding, wetness, crusting, restricted permeability.	Ponding, wetness, low pH, frost heave.
112A:		
Cowden	Ponding, wetness, restricted permeability.	Ponding, wetness, low pH, frost heave.
113A:		
Oconee	Wetness, restricted permeability.	Wetness, low pH.
113B:		
Oconee	Wetness, water erosion, restricted permeability.	Wetness, low pH, water erosion.
116A:		
Whitson	Ponding, wetness, crusting, restricted permeability.	Ponding, wetness, low pH, frost heave.
122B:		
Colp	Crusting, water erosion, restricted permeability.	Low pH, water erosion.
122D2:		
Colp	Crusting, water erosion, restricted permeability.	Low pH, water erosion.
131B:		
Alvin	Limited available water capacity.	Low pH, limited available water capacity, low fertility.
131C2:		
Alvin	Water erosion, limited available water capacity.	Low pH, water erosion, limited available water capacity, low fertility.
132A:		
Starks	Wetness, crusting, restricted permeability.	Wetness, low pH.
134A:		
Camden	Crusting	Low pH.
134B:		
Camden	Crusting, water erosion	Low pH, water erosion.
134C2:		
Camden	Crusting, water erosion	Low pH, water erosion.
136A:		
Brooklyn	Ponding, wetness, restricted permeability.	Ponding, wetness, low pH, frost heave.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
138A:		
Shiloh	Ponding, wetness, poor tilth, restricted permeability.	Ponding, wetness, frost heave.
149A:		
Brenton	Wetness	Wetness.
152A:		
Drummer	Ponding, wetness	Ponding, wetness, frost heave.
164A:		
Stoy	Wetness, root-restrictive layer, crusting, restricted permeability.	Wetness, root-restrictive layer, low pH.
164B:		
Stoy	Wetness, root-restrictive layer, crusting, water erosion, restricted permeability.	Wetness, root-restrictive layer, low pH, water erosion.
165A:		
Weir	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, low pH, frost heave.
175D2:		
Lamont	Water erosion, limited available water capacity, excessive permeability.	Low pH, water erosion, limited available water capacity, low fertility, excessive permeability.
208A:		
Sexton	Ponding, wetness, crusting, restricted permeability.	Ponding, wetness, low pH, frost heave.
214B:		
Hosmer	Root-restrictive layer, crusting, water erosion, restricted permeability.	Root-restrictive layer, low pH, water erosion.
218A:		
Newberry	Ponding, wetness, restricted permeability.	Ponding, wetness, low pH, restricted permeability, frost heave.
219A:		
Millbrook	Wetness, restricted permeability.	Wetness, low pH.
287A:		
Chauncey	Ponding, wetness, restricted permeability.	Ponding, wetness, low pH, frost heave.
291B:		
Xenia	Root-restrictive layer, crusting, water erosion.	Root-restrictive layer, low pH, water erosion.
315A:		
Channahon	Limited available water capacity, restricted permeability.	Limited available water capacity.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
434A:		
Ridgway	No major limitations	Low pH.
434B:		
Ridgway	Water erosion	Low pH, water erosion.
434D2:		
Ridgway	Crusting, water erosion	Low pH, water erosion.
453A:		
Muren	No major limitations	Low pH.
453B:		
Muren	Water erosion	Low pH, water erosion.
618C2:		
Senachwine	High pH, crusting, water erosion, restricted permeability.	Low pH, high pH, water erosion.
618C3:		
Senachwine	Poor tilth, high pH, crusting, water erosion, restricted permeability.	Poor tilth, low pH, high pH, water erosion, low fertility.
618D2:		
Senachwine	High pH, crusting, water erosion, restricted permeability.	Low pH, high pH, water erosion.
618D3:		
Senachwine	Poor tilth, high pH, crusting, water erosion, restricted permeability.	Poor tilth, low pH, high pH, water erosion, low fertility.
802D:		
Orthents, loamy	---	---
842G:		
Hickory	---	---
Rock outcrop.		
927C2:		
Blair	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
Atlas	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
927C3:		
Blair	Wetness, poor tilth, crusting, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
Atlas	Wetness, poor tilth, crusting, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
946D2:		
Hickory	Crusting, water erosion	Low pH, water erosion.
Atlas	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
946D3:		
Hickory	Poor tilth, crusting, water erosion.	Poor tilth, low pH, water erosion, low fertility.
Atlas	Wetness, poor tilth, crusting, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
991A:		
Cisne	Ponding, wetness, restricted permeability.	Ponding, wetness, low pH, frost heave.
Huey	Ponding, wetness, high pH, excess sodium, restricted permeability.	Ponding, wetness, low pH, high pH, excess sodium, frost heave.
3028A:		
Jules	Flooding, high pH, excess lime, crusting.	Flooding, high pH, excess lime.
3071A:		
Darwin	Flooding, ponding, wetness, poor tilth, restricted permeability.	Flooding, ponding, wetness, poor tilth, frost heave.
3226A:		
Wirt	Flooding, crusting	Flooding.
3284A:		
Tice	Flooding, wetness, poor tilth	Flooding, wetness.
3288A:		
Petrolia	Flooding, ponding, wetness, poor tilth, crusting, restricted permeability.	Flooding, ponding, wetness, poor tilth, frost heave.
3302A:		
Ambraw	Flooding, ponding, wetness, poor tilth.	Flooding, ponding, wetness, poor tilth, low pH, frost heave.
3424A:		
Shoals	Flooding, wetness, crusting	Flooding, wetness.
3431A:		
Genesee	Flooding, high pH, crusting	Flooding, high pH.
3450A:		
Brouillett	Flooding, wetness	Flooding, wetness.
3597A:		
Armiesburg	Flooding, poor tilth	Flooding, poor tilth.
3665A:		
Stonelick	Flooding, high pH, excess lime.	Flooding, high pH, excess lime.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
7098B:		
Ade	Wind erosion, limited available water capacity, excessive permeability.	Wind erosion, limited available water capacity, low fertility, excessive permeability.
7131B:		
Alvin	Limited available water capacity.	Low pH, limited available water capacity, low fertility.
7155A:		
Stockland	Limited available water capacity, excessive permeability.	Low pH, limited available water capacity, excessive permeability.
7155B:		
Stockland	Limited available water capacity.	Limited available water capacity.
7155C:		
Stockland	Limited available water capacity.	Low pH, limited available water capacity.
7175B:		
Lamont	Limited available water capacity, excessive permeability.	Low pH, limited available water capacity, low fertility, excessive permeability.
7266B:		
Disco	Limited available water capacity, excessive permeability.	Low pH, limited available water capacity, excessive permeability.
7286A:		
Carmi	Limited available water capacity, excessive permeability.	Low pH, limited available water capacity, excessive permeability.
7434B:		
Ridgway	Water erosion	Low pH, water erosion.
7571A:		
Whitaker	Wetness	Wetness, low pH.
8431A:		
Genesee	Flooding	Flooding.
8665A:		
Stonelick	Flooding, high pH	Flooding, high pH, low fertility.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
2A:						
Cisne	3w	135	41	53	4.18	6.17
3A:						
Hoyleton	2w	132	42	52	4.18	6.17
3B:						
Hoyleton	2e	131	42	51	4.14	6.10
8F:						
Hickory	6e	---	---	---	2.64	3.84
8G:						
Hickory	7e	---	---	---	---	2.51
12A:						
Wynoose	3w	115	38	46	3.84	5.67
13A:						
Bluford	2w	122	40	50	3.05	4.50
13B2:						
Bluford	2e	116	38	48	2.90	4.28
14B:						
Ava	3s	120	39	50	2.91	4.24
14C2:						
Ava	3e	108	35	45	2.62	3.77
31A:						
Pierron	3w	122	39	50	4.07	6.00
48A:						
Ebbert	3w	155	48	59	4.63	6.83
50A:						
Virden	2w	164	53	64	4.75	7.00
79B:						
Menfro	2e	148	46	56	4.37	6.44
79D2:						
Menfro	4e	134	41	51	3.97	5.79
109A:						
Racoon	2w	130	41	51	3.50	5.17
112A:						
Cowden	2w	143	45	57	4.41	6.50
113A:						
Oconee	2w	148	45	57	4.75	7.00

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
113B:						
Oconee	2e	147	45	56	4.70	6.93
116A:						
Whitson	2w	142	45	54	4.29	6.33
122B:						
Colp	2e	120	38	50	3.80	5.61
122D2:						
Colp	4e	99	31	42	3.15	4.54
131B:						
Alvin	2e	134	44	52	3.36	4.97
131C2:						
Alvin	3e	127	41	50	3.19	4.65
132A:						
Starks	1	147	46	57	4.63	6.83
134A:						
Camden	1	149	46	58	4.29	6.33
134B:						
Camden	2e	148	46	57	4.25	6.27
134C2:						
Camden	3e	139	43	54	3.99	5.80
136A:						
Brooklyn	2w	136	44	54	4.07	6.00
138A:						
Shiloh	3w	158	52	62	4.86	7.17
149A:						
Brenton	1	176	54	67	5.09	7.50
152A:						
Drummer	2w	175	57	66	5.09	7.50
164A:						
Stoy	3s	131	42	52	4.18	6.17
164B:						
Stoy	2e	130	42	51	4.14	6.11
165A:						
Weir	3w	127	41	51	4.07	6.00
175D2:						
Lamont	4e	101	34	42	2.53	3.64
208A:						
Sexton	2w	142	45	57	4.41	6.50
214B:						
Hosmer	3s	123	40	51	3.21	4.73

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
218A:						
Newberry------------	2w	139	44	54	4.29	6.33
219A:						
Millbrook-----------	1	159	50	62	4.75	7.00
287A:						
Chauncey------------	3w	145	46	57	4.29	6.33
291B:						
Xenia---------------	2e	145	45	57	4.03	5.94
315A:						
Channahon-----------	4s	92	33	42	3.10	4.33
434A:						
Ridgway-------------	1	148	45	55	4.07	6.00
434B:						
Ridgway-------------	2e	147	45	54	4.03	5.94
434D2:						
Ridgway-------------	4e	129	39	48	3.54	5.10
453A:						
Muren---------------	1	147	45	55	4.63	6.83
453B:						
Muren---------------	2e	146	45	54	4.58	6.76
618C2:						
Senachwine----------	3e	123	40	48	2.94	4.29
618C3:						
Senachwine----------	3e	114	37	45	2.72	3.90
618D2:						
Senachwine----------	4e	115	37	45	2.75	3.97
618D3:						
Senachwine----------	4e	104	34	41	2.50	3.60
802D.						
Orthents, loamy						
830B.						
Landfills						
842G-----------------		---	---	---	---	1.70
Hickory-------------	7e					
Rock outcrop--------	8e					
864:						
Pits, quarries------	8	---	---	---	---	---
865:						
Pits, gravel--------	8	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
927C2----------------- Atlas-Blair	3e	107	35	43	3.38	4.86
927C3----------------- Atlas-Blair	3e	95	31	38	2.97	4.27
946D2----------------- Hickory-Atlas	4e	92	32	37	2.90	4.20
946D3----------------- Hickory-Atlas	4e	86	28	34	2.70	3.80
991A------------------ Cisne-Huey	3w	118	40	46	3.72	5.49
3028A:						
Jules----------------	3w	138	42	---	3.97	5.85
3071A:						
Darwin---------------	3w	121	41	---	3.56	5.25
3226A:						
Wirt-----------------	3w	118	38	---	2.84	4.20
3284A:						
Tice-----------------	3w	149	46	---	5.89	6.81
3288A:						
Petrolia-------------	3w	131	40	---	3.97	5.85
3302A:						
Ambraw---------------	3w	124	41	---	4.07	6.00
3424A:						
Shoals---------------	3w	141	44	---	4.28	6.30
3431A:						
Genesee--------------	3w	139	43	---	4.37	6.45
3450A:						
Brouillett-----------	3w	146	48	---	4.47	6.60
3597A:						
Armiesburg-----------	3w	144	46	---	5.39	7.95
3665A:						
Stonelick------------	3w	116	35	---	2.95	4.35
7098B:						
Ade------------------	4s	121	42	51	3.80	5.61
7131B:						
Alvin----------------	2e	134	44	52	3.36	4.95
7155A:						
Stockland------------	2s	108	38	45	3.73	5.50
7155B:						
Stockland------------	2e	106	37	44	3.66	5.39

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
7155C:						
Stockland-----------	3e	104	36	43	3.58	5.23
7175B:						
Lamont--------------	3s	117	39	49	2.91	4.29
7266B:						
Disco---------------	2e	129	44	51	3.36	4.95
7286A:						
Carmi---------------	2s	131	40	54	3.84	5.67
7434B:						
Ridgway-------------	2e	147	45	54	4.03	5.94
7571A:						
Whitaker------------	2w	147	46	55	4.52	6.67
8431A:						
Genesee-------------	2w	154	48	59	4.86	7.17
8665A:						
Stonelick-----------	2w	129	39	49	3.28	4.83

* Animal unit month: The amount of forage required to feed one mature cow, of approximately 1,000 pounds weight, with or without a calf, for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
2A	Cisne silt loam, 0 to 2 percent slopes (where drained)
3A	Hoyleton silt loam, 0 to 2 percent slopes
3B	Hoyleton silt loam, 2 to 5 percent slopes
13A	Bluford silt loam, 0 to 2 percent slopes (where drained)
13B2	Bluford silt loam, 2 to 5 percent slopes, eroded
14B	Ava silt loam, 2 to 5 percent slopes
48A	Ebbert silt loam, 0 to 2 percent slopes (where drained)
50A	Virden silt loam, 0 to 2 percent slopes (where drained)
79B	Menfro silt loam, 2 to 5 percent slopes
109A	Racoon silt loam, 0 to 2 percent slopes (where drained)
112A	Cowden silt loam, 0 to 2 percent slopes (where drained)
113A	Oconee silt loam, 0 to 2 percent slopes (where drained)
113B	Oconee silt loam, 2 to 5 percent slopes
116A	Whitson silt loam, 0 to 2 percent slopes (where drained)
122B	Colp silt loam, 2 to 5 percent slopes
131B	Alvin fine sandy loam, 2 to 5 percent slopes
131C2	Alvin fine sandy loam, 5 to 10 percent slopes, eroded
132A	Starks silt loam, 0 to 2 percent slopes
134A	Camden silt loam, 0 to 2 percent slopes
134B	Camden silt loam, 2 to 5 percent slopes
136A	Brooklyn silt loam, 0 to 2 percent slopes (where drained)
138A	Shiloh silty clay loam, 0 to 2 percent slopes (where drained)
149A	Brenton silt loam, 0 to 2 percent slopes
152A	Drummer silty clay loam, 0 to 2 percent slopes (where drained)
164A	Stoy silt loam, 0 to 2 percent slopes
164B	Stoy silt loam, 2 to 5 percent slopes
208A	Sexton silt loam, 0 to 2 percent slopes (where drained)
214B	Hosmer silt loam, 2 to 5 percent slopes
218A	Newberry silt loam, 0 to 2 percent slopes (where drained)
219A	Millbrook silt loam, 0 to 2 percent slopes
287A	Chauncey silt loam, 0 to 2 percent slopes (where drained)
291B	Xenia silt loam, 2 to 5 percent slopes
434A	Ridgway silt loam, 0 to 2 percent slopes
434B	Ridgway silt loam, 2 to 5 percent slopes
453A	Muren silt loam, 0 to 2 percent slopes
453B	Muren silt loam, 2 to 5 percent slopes
991A	Cisne-Huey silt loams, 0 to 2 percent slopes (where drained)
3028A	Jules silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3071A	Darwin silty clay, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3226A	Wirt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3288A	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3302A	Ambraw clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3424A	Shoals silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3431A	Genesee silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3450A	Brouillett silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3597A	Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)

Table 8.--Prime Farmland--Continued

Map symbol	Soil name
3665A	Stonelick loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7131B	Alvin fine sandy loam, 2 to 5 percent slopes, rarely flooded
7155A	Stockland gravelly sandy loam, 0 to 2 percent slopes, rarely flooded
7155B	Stockland gravelly sandy loam, 2 to 5 percent slopes, rarely flooded
7155C	Stockland gravelly sandy loam, 5 to 10 percent slopes, rarely flooded
7175B	Lamont fine sandy loam, 2 to 5 percent slopes, rarely flooded
7266B	Disco sandy loam, 2 to 5 percent slopes, rarely flooded
7286A	Carmi sandy loam, 0 to 2 percent slopes, rarely flooded
7434B	Ridgway silt loam, 2 to 5 percent slopes, rarely flooded
7571A	Whitaker loam, 0 to 2 percent slopes, rarely flooded (where drained)
8431A	Genesee sandy loam, 0 to 2 percent slopes, occasionally flooded
8665A	Stonelick fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Table 9.--Hydric Soils

(Only those map units that have hydric components are listed. See text for a description of hydric qualities and definitions of the codes in the hydric criteria column)

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
2A:				
Cisne silt loam, 0 to 2 percent slopes	Cisne	Hydric	till plain	2B3
3A:				
Hoyleton silt loam, 0 to 2 percent slopes	Hoyleton	Not hydric	till plain	---
	Cisne	Hydric	flat	2B3
3B:				
Hoyleton silt loam, 2 to 5 percent slopes	Hoyleton	Not hydric	till plain	---
	Cisne	Hydric	flat	2B3
12A:				
Wynoose silt loam, 0 to 2 percent slopes	Wynoose	Hydric	till plain	2B3
13A:				
Bluford silt loam, 0 to 2 percent slopes	Bluford	Not hydric	till plain	---
	Cisne	Hydric	flat	2B3
13B2:				
Bluford silt loam, 2 to 5 percent slopes, eroded	Bluford	Not hydric	till plain	---
	Cisne	Hydric	flat	2B3
14B:				
Ava silt loam, 2 to 5 percent slopes	Ava	Not hydric	till plain	---
	Wynoose	Hydric	flat	2B3
14C2:				
Ava silt loam, 5 to 10 percent slopes, eroded	Ava	Not hydric	till plain	---
	Wynoose	Hydric	flat	2B3
31A:				
Pierron silt loam, 0 to 2 percent slopes	Pierron	Hydric	depression, till plain	2B3
48A:				
Ebbert silt loam, 0 to 2 percent slopes	Ebbert	Hydric	depression, till plain	2B3
50A:				
Virden silt loam, 0 to 2 percent slopes	Virden	Hydric	till plain	2B3
109A:				
Racoon silt loam, 0 to 2 percent slopes	Racoon	Hydric	depression, till plain	2B3
112A:				
Cowden silt loam, 0 to 2 percent slopes	Cowden	Hydric	till plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
113A:				
Oconee silt loam, 0 to 2 percent slopes	Oconee	Not hydric	till plain	---
	Shiloh	Hydric	depression	2B3
113B:				
Oconee silt loam, 2 to 5 percent slopes	Oconee	Not hydric	till plain	---
	Shiloh	Hydric	depression	2B3
116A:				
Whitson silt loam, 0 to 2 percent slopes	Whitson	Hydric	till plain	2B3
122B:				
Colp silt loam, 2 to 5 percent slopes	Colp	Not hydric	lakebed (relict)	---
	Ambraw	Hydric	flood plain	2B3
122D2:				
Colp silt loam, 10 to 18 percent slopes, eroded	Colp	Not hydric	lakebed (relict)	---
	Ambraw	Hydric	flood plain	2B3
131B:				
Alvin fine sandy loam, 2 to 5 percent slopes	Alvin	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
131C2:				
Alvin fine sandy loam, 5 to 10 percent slopes, eroded	Alvin	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
132A:				
Starks silt loam, 0 to 2 percent slopes	Starks	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3
	Brooklyn	Hydric	depression	2B3
134A:				
Camden silt loam, 0 to 2 percent slopes	Camden	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3
134B:				
Camden silt loam, 2 to 5 percent slopes	Camden	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
134C2:				
Camden silt loam, 5 to 10 percent slopes, eroded	Camden	Not hydric	outwash plain, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
136A:				
Brooklyn silt loam, 0 to 2 percent slopes	Brooklyn	Hydric	outwash plain, stream terrace	2B3
138A:				
Shiloh silty clay loam, 0 to 2 percent slopes	Shiloh	Hydric	depression, till plain	2B3
149A:				
Brenton silt loam, 0 to 2 percent slopes	Brenton	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3
152A:				
Drummer silty clay loam, 0 to 2 percent slopes	Drummer	Hydric	outwash plain, stream terrace	2B3
164A:				
Stoy silt loam, 0 to 2 percent slopes	Stoy	Not hydric	interfluve, till plain	---
	Cowden	Hydric	flat	2B3
164B:				
Stoy silt loam, 2 to 5 percent slopes	Stoy	Not hydric	interfluve, till plain	---
	Cowden	Hydric	flat	2B3
165A:				
Weir silt loam, 0 to 2 percent slopes	Weir	Hydric	till plain	2B3
175D2:				
Lamont fine sandy loam, 10 to 18 percent slopes, eroded	Lamont	Not hydric	stream terrace, outwash terrace	---
	Ambraw	Hydric	flood plain	2B3
208A:				
Sexton silt loam, 0 to 2 percent slopes	Sexton	Hydric	outwash plain	2B3
218A:				
Newberry silt loam, 0 to 2 percent slopes	Newberry	Hydric	till plain	2B3
	Shiloh	Hydric	depression	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
219A:				
Millbrook silt loam, 0 to 2 percent slopes	Millbrook	Not hydric	outwash plain, outwash terrace	---
	Drummer	Hydric	swale	2B3
	Brooklyn	Hydric	depression	2B3
287A:				
Chauncey silt loam, 0 to 2 percent slopes	Chauncey	Hydric	depression, till plain	2B3
291B:				
Xenia silt loam, 2 to 5 percent slopes	Xenia	Not hydric	ground moraine	---
	Drummer	Hydric	swale	2B3
315A:				
Channahon silt loam, 0 to 2 percent slopes	Channahon	Not hydric	terrace	---
	Ambraw	Hydric	flood plain	2B3
434A:				
Ridgway silt loam, 0 to 2 percent slopes	Ridgway	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
434B:				
Ridgway silt loam, 2 to 5 percent slopes	Ridgway	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
434D2:				
Ridgway silt loam, 10 to 18 percent slopes, eroded	Ridgway	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
453A:				
Muren silt loam, 0 to 2 percent slopes	Muren	Not hydric	loess bluff	---
	Virden	Hydric	swale	2B3
618C2:				
Senachwine silt loam, 5 to 10 percent slopes, eroded	Senachwine	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	swale	2B3
618C3:				
Senachwine clay loam, 5 to 10 percent slopes, severely eroded	Senachwine	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	swale	2B3
618D2:				
Senachwine silt loam, 10 to 18 percent slopes, eroded	Senachwine	Not hydric	end moraine, ground moraine	---
	Drummer	Hydric	swale	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
618D3:				
Senachwine clay loam, 10 to 18 percent slopes, severely eroded	Senachwine	Not hydric	end moraine, ground moraine	---
	Drummer	Hydric	swale	2B3
802D:				
Orthents, loamy, 2 to 20 percent slopes	Orthents	Not hydric	---	---
	Drummer	Hydric	swale	2B3
927C2:				
Blair-Atlas silt loams, 5 to 10 percent slopes, eroded	Blair	Not hydric	till plain	---
	Atlas	Not hydric	till plain	---
	Wynoose	Hydric	flat	2B3
927C3:				
Blair-Atlas silty clay loams, 5 to 10 percent slopes, severely eroded	Blair	Not hydric	till plain	---
	Atlas	Not hydric	till plain	---
	Wynoose	Hydric	flat	2B3
991A:				
Cisne-Huey silt loams, 0 to 2 percent slopes	Cisne	Hydric	till plain	2B3
	Huey	Hydric	depression, till plain,	2B3
3028A:				
Jules silt loam, 0 to 2 percent slopes, frequently flooded	Jules	Not hydric	flood plain	---
	Petrolia	Hydric	swale	2B3
3071A:				
Darwin silty clay, 0 to 2 percent slopes, frequently flooded	Darwin	Hydric	depression, flood plain	2B3
3226A:				
Wirt loam, 0 to 2 percent slopes, frequently flooded	Wirt	Not hydric	flood plain	---
	Ambraw	Hydric	swale	2B3
3284A:				
Tice silty clay loam, 0 to 2 percent slopes, frequently flooded	Tice	Not hydric	flood plain	---
	Darwin	Hydric	swale	2B3
3288A:				
Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded	Petrolia	Hydric	flood plain	2B3
3302A:				
Ambraw clay loam, 0 to 2 percent slopes, frequently flooded	Ambraw	Hydric	flood plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
3424A:				
Shoals silt loam, 0 to 2 percent slopes, frequently flooded	Shoals	Not hydric	flood plain	---
	Petrolia	Hydric	swale	2B3
3431A:				
Genesee silt loam, 0 to 2 percent slopes, frequently flooded	Genesee	Not hydric	flood plain	---
	Petrolia	Hydric	swale	2B3
3450A:				
Brouillett silt loam, 0 to 2 percent slopes, frequently flooded	Brouillett	Not hydric	flood plain	---
	Ambraw	Hydric	swale	2B3
3597A:				
Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded	Armiesburg	Not hydric	flood plain	---
	Darwin	Hydric	swale	2B3
3665A:				
Stonelick loam, 0 to 2 percent slopes, frequently flooded	Stonelick	Not hydric	flood plain	---
	Petrolia	Hydric	swale	2B3
7098B:				
Ade loamy sand, 2 to 5 percent slopes, rarely flooded	Ade	Not hydric	stream terrace	---
	Ambraw	Hydric	flood plain	2B3
7155A:				
Stockland gravelly sandy loam, 0 to 2 percent slopes, rarely flooded	Stockland	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
	Darwin	Hydric	flood plain	2B3
7155B:				
Stockland gravelly sandy loam, 2 to 5 percent slopes, rarely flooded	Stockland	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
	Darwin	Hydric	flood plain	2B3
7155C:				
Stockland gravelly sandy loam, 5 to 10 percent slopes, rarely flooded	Stockland	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
	Darwin	Hydric	flood plain	2B3
7175B:				
Lamont fine sandy loam, 2 to 5 percent slopes, rarely flooded	Lamont	Not hydric	stream terrace	---
	Ambraw	Hydric	flood plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
7266B:				
Disco sandy loam, 2 to 5 percent slopes, rarely flooded	Disco	Not hydric	stream terrace	---
	Petrolia	Hydric	flood plain	2B3
7286A:				
Carmi sandy loam, 0 to 2 percent slopes, rarely flooded	Carmi	Not hydric	outwash terrace, stream terrace	---
	Ambraw	Hydric	flood plain	2B3
7434B:				
Ridgway silt loam, 2 to 5 percent slopes, rarely flooded	Ridgway	Not hydric	stream terrace	---
	Ambraw	Hydric	flood plain	2B3
7571A:				
Whitaker loam, 0 to 2 percent slopes, rarely flooded	Whitaker	Not hydric	stream terrace	---
	Ambraw	Hydric	flood plain	2B3
8431A:				
Genesee sandy loam, 0 to 2 percent slopes, occasionally flooded	Genesee	Not hydric	flood plain, flood-plain step	---
	Petrolia	Hydric	swale	2B3
8665A:				
Stonelick fine sandy loam, 0 to 2 percent slopes, occasionally flooded	Stonelick	Not hydric	flood plain, flood-plain step	---
	Petrolia	Hydric	swale	2B3

Table 10.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
2A:					
Cisne	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3A:					
Hoyleton	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3B:					
Hoyleton	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
8F:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
8G:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
12A:					
Wynoose	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
13A:					
Bluford	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
13B2:					
Bluford	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
14B:					
Ava	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
14C2:					
Ava	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
31A:					
Pierron	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
48A:					
Ebbert	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
50A:					
Virden	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
79B:					
Menfro	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
79D2:					
Menfro	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
109A:					
Racoon	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
112A:					
Cowden	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
113A:					
Oconee	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
113B:					
Oconee	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
116A:					
Whitson	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
122B:					
Colp	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
122D2:					
Colp	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
131B:					
Alvin	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
131C2:					
Alvin	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
132A:					
Starks	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
134A:					
Camden	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
134B:					
Camden	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
134C2:					
Camden	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
136A:					
Brooklyn	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
138A:					
Shiloh	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
149A:					
Brenton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
152A:					
Drummer	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
164A:					
Stoy	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
164B:					
Stoy	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
165A:					
Weir	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
175D2:					
Lamont	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
208A:					
Sexton	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
214B:					
Hosmer	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
218A:					
Newberry	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
219A:					
Millbrook	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
287A:					
Chauncey	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
291B:					
Xenia	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
315A.					
Channahon					
434A:					
Ridgway	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
434B:					
Ridgway	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
434D2:					
Ridgway	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
453A:					
Muren	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
453B:					
Muren	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
618C2:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
618C3:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
618D2:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
618D3:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
802D:					
Orthents, loamy	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
830B.					
Landfills					

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
842G:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
Rock outcrop.					
864. Pits, quarries					
865. Pits, gravel					
927C2:					
Blair	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
927C3:					
Blair	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
946D2:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
946D3:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
991A:					
Cisne	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Huey	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3028A:					
Jules	Common winterberry, gray dogwood, redosier dogwood, silky dogwood	Blackhaw, common pawpaw, common serviceberry, downy arrowwood, roughleaf dogwood, southern arrowwood	Austrian pine, arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn, nannyberry	Carolina poplar, eastern cottonwood	---
3071A:					
Darwin	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3226A:					
Wirt	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
3284A:					
Tice	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
3288A: Petrolia	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3302A: Ambraw	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3424A: Shoals	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3431A: Genesee	Common winterberry, gray dogwood, redosier dogwood, silky dogwood	Blackhaw, common pawpaw, common serviceberry, downy arrowwood, roughleaf dogwood, southern arrowwood	Austrian pine, arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn, nannyberry	Carolina poplar, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3450A:					
Brouillett	Common winterberry, gray dogwood, redosier dogwood, silky dogwood	Blackhaw, common pawpaw, common serviceberry, downy arrowwood, roughleaf dogwood, southern arrowwood	Austrian pine, arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn, nannyberry	Carolina poplar, eastern cottonwood	---
3597A:					
Armiesburg	Common winterberry, gray dogwood, redosier dogwood, silky dogwood	Blackhaw, common pawpaw, common serviceberry, downy arrowwood, roughleaf dogwood, southern arrowwood	Austrian pine, arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn, nannyberry	Carolina poplar, eastern cottonwood	---
3665A:					
Stonelick	Common winterberry, gray dogwood, redosier dogwood, silky dogwood	Blackhaw, common pawpaw, common serviceberry, downy arrowwood, roughleaf dogwood, southern arrowwood	Austrian pine, arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn, nannyberry	Carolina poplar, eastern cottonwood	---
7098B:					
Ade	Siberian peashrub, common lilac, silky dogwood	Washington hawthorn, radiant crabapple	Austrian pine, eastern redcedar, jack pine, red pine	Eastern white pine	---
7131B:					
Alvin	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7155A:					
Stockland	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
7155B:					
Stockland	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
7155C:					
Stockland	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
7175B:					
Lamont	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
7266B:					
Disco	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
7286A:					
Carmi	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
7434B:					
Ridgway	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
7571A:					
Whitaker	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8431A:					
Genesee	American hazelnut, common winterberry, gray dogwood, redosier dogwood	Blackhaw, common chokecherry, common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	American sycamore, arborvitae, blue spruce, bur oak, chinkapin oak, common hackberry, eastern redcedar	Carolina poplar, eastern cottonwood	---
8665A:					
Stonelick	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 11.--Forestland Productivity

(Only the soils suitable for production of commercial trees are listed)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
2A:				
Cisne	Bitternut hickory	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Black oak	---	---	
	Pin oak	70	57	
	White oak	---	---	
3A:				
Hoyleton	Bur oak	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
3B:				
Hoyleton	Bur oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
8F:				
Hickory	Bitternut hickory	---	---	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
8G:				
Hickory	Bitternut hickory	---	---	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
12A:				
Wynoose	Black oak	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	70	57	
	White oak	---	---	
13A:				
Bluford	Bur oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	Southern red oak	70	57	
	White oak	70	57	
13B2:				
Bluford	Bur oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	Southern red oak	70	57	
	White oak	70	57	
14B:				
Ava	Black walnut	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	75	57	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
14C2:				
Ava	Black walnut	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	75	57	
31A:				
Pierron	Eastern cottonwood	93	---	Baldcypress, eastern cottonwood, overcup oak, pin oak, red maple, awamp chestnut oak, swamp white oak, sweetgum.
	Pin oak	84	---	
79B:				
Menfro	White oak	82	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	84	---	
	Eastern cottonwood	---	---	
	Pin oak	---	---	
79D2:				
Menfro	White oak	82	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	84	---	
	Eastern cottonwood	---	---	
	Pin oak	---	---	
109A:				
Racoon	Cottonwood	103	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	93	---	
	Yellow poplar	91	---	
116A:				
Whitson	Black oak	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pignut hickory	---	---	
	Pin oak	70	57	
	White oak	---	---	
122B:				
Colp	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	70	57	
	White ash	---	---	
	White oak	70	57	
122D2:				
Colp	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	70	57	
	White ash	---	---	
	White oak	70	57	
131B:				
Alvin	White oak	80	57	Common hackberry, eastern redcedar, eastern white pine, red maple, red pine, shortleaf pine.
	Black walnut	---	---	
	Northern red oak	80	57	
	Tuliptree	90	86	
131C2:				
Alvin	Black walnut	---	---	Common hackberry, eastern redcedar, eastern white pine, red maple, red pine, shortleaf pine.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
132A:				
Starks	Northern red oak	80	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak	80	57	
	Black walnut	---	---	
134A:				
Camden	White oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Green ash	76	72	
	Northern red oak	85	72	
	Sweetgum	80	86	
	Tuliptree	95	100	
134B:				
Camden	White oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Green ash	76	72	
	Northern red oak	85	72	
	Sweetgum	80	86	
	Tuliptree	95	100	
134C2:				
Camden	Northern red oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak	85	72	
	Sweetgum	80	86	
	Tuliptree	95	100	
136A:				
Brooklyn	Pin oak	80	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	White oak	---	---	
	Green ash	---	---	
	Tuliptree	---	---	
164A:				
Stoy	Bur oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Southern red oak	70	57	
	White ash	---	---	
	White oak	70	57	
164B:				
Stoy	Bur oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Southern red oak	70	57	
	White ash	---	---	
	White oak	70	57	
165A:				
Weir	Black oak	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pignut hickory	---	---	
	Pin oak	70	57	
	White oak	---	---	
175D2:				
Lamont	Northern red oak	55	43	Common hackberry, eastern redcedar, eastern white pine, red maple.
	White oak	55	43	
208A:				
Sexton	Pin oak	80	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	White oak	---	---	
	Green ash	---	---	
	Tuliptree	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
214B:				
Hosmer	White oak	72	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	75	---	
	Eastern cottonwood	---	---	
	Pin oak	---	---	
219A:				
Millbrook	White oak	80	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	80	57	
	Tuliptree	90	86	
291B:				
Xenia	White oak	90	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	76	72	
	Tuliptree	98	100	
434A:				
Ridgway	Green ash	76	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	80	86	
	Tuliptree	95	100	
	White oak	85	72	
434B:				
Ridgway	Green ash	76	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	80	86	
	Tuliptree	95	100	
	White oak	85	72	
434D2:				
Ridgway	Green ash	76	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	80	86	
	Tuliptree	95	100	
	White oak	85	72	
453A:				
Muren	Pin oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	80	86	
	Tuliptree	85	86	
	White oak	75	57	
453B:				
Muren	Pin oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	80	86	
	Tuliptree	85	86	
	White oak	75	57	
618C2:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
618C3:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
618D2:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
618D3:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
802D:				
Orthents, loamy	---	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
842G:				
Hickory	Bitternut hickory	---	---	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
Rock outcrop.				
927C2:				
Blair	Northern red oak	70	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Bur oak	70	57	
	White oak	70	57	
	Green ash	---	---	
Atlas	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
927C3:				
Blair	Northern red oak	70	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Bur oak	70	57	
	White oak	70	57	
	Green ash	---	---	
Atlas	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
946D2:				
Hickory	Northern red oak	85	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	White oak	85	72	
	Black oak	---	---	
	Green ash	---	---	
	Bitternut hickory	---	---	
	Tuliptree	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
946D2:				
Atlas	Northern red oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak	70	57	
	Bur oak	70	57	
	Green ash	---	---	
946D3:				
Hickory	Northern red oak	85	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	White oak	85	72	
	Black oak	---	---	
	Green ash	---	---	
	Bitternut hickory	---	---	
	Tuliptree	---	---	
Atlas	Northern red oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak	70	57	
	Bur oak	70	57	
	Green ash	---	---	
991A:				
Cisne	Bitternut hickory	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Black oak	---	---	
	Pin oak	70	57	
	White oak	---	---	
Huey	Eastern cottonwood	89	---	Blue spruce, eastern redcedar, eastern white pine.
	Pin oak	81	---	
	Yellow poplar	69	---	
3028A:				
Jules	Black cherry	---	---	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
	Eastern cottonwood	---	---	
	Northern red oak	80	57	
	Sugar maple	---	---	
	White oak	---	---	
3071A:				
Darwin	White oak	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	---	---	
	Eastern cottonwood	88	---	
	Pin oak	80	---	
3226A:				
Wirt	Tuliptree	100	114	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
3284A:				
Tice	White oak	---	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak	---	---	
	Eastern cottonwood	97	---	
	Pin oak	87	---	
3288A:				
Petrolia	White oak	---	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	---	---	
	Eastern cottonwood	97	---	
	Pin oak	87	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
3424A:				
Shoals	Pin oak	90	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Tuliptree	90	86	
	Eastern cottonwood	---	---	
	White ash	---	---	
3431A:				
Genesee	Tuliptree	100	114	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
3450A:				
Brouillett	Red maple	---	---	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
	Silver maple	70	29	
	White ash	---	---	
3597A:				
Armiesburg	White oak	---	57	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
	Northern red oak	---	---	
	Eastern cottonwood	109	---	
	Pin oak	97	---	
3665A:				
Stonelick	Black cherry	---	---	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
	Black walnut	---	---	
	Northern red oak	80	57	
	Sugar maple	---	---	
	Tuliptree	95	100	
	White ash	---	---	
	White oak	---	---	
7131B:				
Alvin	White oak	80	57	Common hackberry, eastern redcedar, eastern white pine, red maple.
	Black walnut	---	---	
	Northern red oak	80	57	
	Tuliptree	90	86	
7175B:				
Lamont	Northern red oak	55	43	Common hackberry, eastern redcedar, eastern white pine, red maple.
	White oak	55	43	
7434B:				
Ridgway	Green ash	76	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	80	86	
	Tuliptree	95	100	
	White oak	85	72	
7571A:				
Whitaker	Northern red oak	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Pin oak	85	72	
	Sweetgum	80	86	
	Tuliptree	85	86	
	White oak	70	57	
8431A:				
Genesee	Tuliptree	100	114	Bur oak, chinkapin oak, common hackberry, eastern cottonwood, eastern redcedar.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
8665A:				
Stonelick	Black cherry	---	---	Bur oak, chinkapin oak, eastern redcedar, thornless honeylocust.
	Black walnut	---	---	
	Northern red oak	80	57	
	Sugar maple	---	---	
	Tuliptree	95	100	
	White ash	---	---	
	White oak	---	---	

Table 12a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
2A:							
Cisne---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98
3A:							
Hoyleton------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
3B:							
Hoyleton------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.12
8F:							
Hickory-------------	91	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
8G:							
Hickory-------------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12A:							
Wynoose-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98
13A:							
Bluford-------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
13B2:							
Bluford-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
		Depth to saturated zone	0.95	Depth to saturated zone	0.68	Depth to saturated zone	0.95
						Slope	0.12

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
14B:							
Ava	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.12
						Depth to saturated zone	0.07
14C2:							
Ava	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slow water movement	0.21
		Slope	0.01	Slope	0.01	Depth to saturated zone	0.07
31A:							
Pierron	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
48A:							
Ebbert	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
50A:							
Virden	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
79B:							
Menfro	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
79D2:							
Menfro	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
112A:							
Cowden	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
113A:							
Oconee	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
113B:							
Oconee	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
116A:							
Whitson	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
122B:							
Colp	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.03
122D2:							
Colp	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
131B:							
Alvin	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
131C2:							
Alvin	95	Not limited		Not limited		Very limited	
						Slope	1.00
132A:							
Starks	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.81	Depth to saturated zone	0.48	Depth to saturated zone	0.81
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
134A:							
Camden--------------	94	Not limited		Not limited		Not limited	
134B:							
Camden--------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.28
134C2:							
Camden--------------	97	Not limited		Not limited		Very limited	
						Slope	1.00
136A:							
Brooklyn------------	93	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
138A:							
Shiloh--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
149A:							
Brenton-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
152A:							
Drummer-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
164A:							
Stoy----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
164B:							
Stoy----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	0.28	Depth to saturated zone	0.56
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Slope	0.12
165A:							
Weir----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
175D2:							
Lamont	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
208A:							
Sexton	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
214B:							
Hosmer	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.22	Slope	0.50
		Slow water movement	0.21	Slow water movement	0.21	Depth to saturated zone	0.44
						Slow water movement	0.21
218A:							
Newberry	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
219A:							
Millbrook	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
287A:							
Chauncey	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
291B:							
Xenia	94	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.50
315A:							
Channahon	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
434A:							
Ridgway	90	Not limited		Not limited		Not limited	
434B:							
Ridgway	90	Not limited		Not limited		Somewhat limited	
						Slope	0.28

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
434D2:							
Ridgway-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
453A:							
Muren---------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
453B:							
Muren---------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
						Slope	0.12
618C2:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.01	Slope	0.01	Slow water movement	0.21
618C3:							
Senachwine----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.01	Slope	0.01	Slow water movement	0.21
618D2:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
618D3:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
802D:							
Orthents, loamy-----	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
830B:							
Landfills-----------	90	Not rated		Not rated		Not rated	
842G:							
Hickory-------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel--------	90	Not rated		Not rated		Not rated	

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
927C2:							
Blair	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Slow water movement	0.22	Slope	1.00
						Slow water movement	0.22
Atlas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slope	1.00
						Slow water movement	0.98
927C3:							
Blair	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Slow water movement	0.22	Slope	1.00
						Slow water movement	0.22
Atlas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.98
946D2:							
Hickory	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.85	Slow water movement	0.85	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	0.85
946D3:							
Hickory	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.85	Slow water movement	0.85	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	0.85
991A:							
Cisne	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
991A:							
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Ponding	1.00	Sodium content	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
3028A:							
Jules	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
3071A:							
Darwin	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Too clayey	1.00	Ponding	1.00
		Too clayey	1.00	Slow water movement	0.98	Too clayey	1.00
		Slow water movement	0.98	Flooding	0.40	Slow water movement	0.98
3226A:							
Wirt	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
3284A:							
Tice	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.68	Flooding	1.00
		Depth to saturated zone	0.95	Flooding	0.40	Depth to saturated zone	0.95
3288A:							
Petrolia	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
3302A:							
Ambraw	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
3424A:							
Shoals	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
3431A:							
Genesee	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
3450A:							
Brouillett----------	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.22	Depth to saturated zone	0.44
3597A:							
Armiesburg----------	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
3665A:							
Stonelick-----------	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
7098B:							
Ade-----------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.59	Too sandy	0.59
		Too sandy	0.59			Slope	0.12
7131B:							
Alvin---------------	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.12
7155A:							
Stockland-----------	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.54	Gravel content	1.00
		Gravel content	0.54				
7155B:							
Stockland-----------	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.54	Gravel content	1.00
		Gravel content	0.54			Slope	0.50
7155C:							
Stockland-----------	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.54	Gravel content	1.00
		Gravel content	0.54			Slope	1.00
7175B:							
Lamont--------------	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.12
7266B:							
Disco---------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.01	Slope	0.12
		Too sandy	0.01			Too sandy	0.01
7286A:							
Carmi---------------	90	Very limited		Not limited		Not limited	
		Flooding	1.00				
7434B:							
Ridgway-------------	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.28
7571A:							
Whitaker------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Flooding	1.00				

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8431A:							
Genesee-------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.01	Flooding	0.60
		Too sandy	0.01			Too sandy	0.01
8665A:							
Stonelick-----------	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60

Table 12b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
3A:							
Hoyleton	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
3B:							
Hoyleton	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
8F:							
Hickory	91	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.02	Slope	1.00
8G:							
Hickory	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12A:							
Wynoose	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
13A:							
Bluford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
13B2:							
Bluford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
14B:							
Ava	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
14C2:							
Ava	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
						Slope	0.01

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
31A:							
Pierron	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
48A:							
Ebbert	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
50A:							
Virden	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
79B:							
Menfro	90	Not limited		Not limited		Not limited	
79D2:							
Menfro	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.37
109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
112A:							
Cowden	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
113A:							
Oconee	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
113B:							
Oconee	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
116A:							
Whitson	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
122B:							
Colp	90	Not limited		Not limited		Not limited	
122D2:							
Colp	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
131B:							
Alvin---------------	90	Not limited		Not limited		Not limited	
131C2:							
Alvin---------------	95	Not limited		Not limited		Not limited	
132A:							
Starks--------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.11	Depth to saturated zone	0.11	Depth to saturated zone	0.48
134A:							
Camden--------------	94	Not limited		Not limited		Not limited	
134B:							
Camden--------------	90	Not limited		Not limited		Not limited	
134C2:							
Camden--------------	97	Not limited		Not limited		Not limited	
136A:							
Brooklyn------------	93	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
138A:							
Shiloh--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
149A:							
Brenton-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
152A:							
Drummer-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
164A:							
Stoy----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
164B:							
Stoy----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.01	Depth to saturated zone	0.01	Depth to saturated zone	0.28
165A:							
Weir----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
175D2:							
Lamont----------------	90	Not limited		Not limited		Very limited	
						Slope	1.00
						Droughty	0.37
208A:							
Sexton----------------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
214B:							
Hosmer----------------	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.22
218A:							
Newberry--------------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
219A:							
Millbrook-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
287A:							
Chauncey--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
291B:							
Xenia-----------------	94	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
315A:							
Channahon-------------	90	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	0.13
434A:							
Ridgway---------------	90	Not limited		Not limited		Not limited	
434B:							
Ridgway---------------	90	Not limited		Not limited		Not limited	
434D2:							
Ridgway---------------	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96
453A:							
Muren-----------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
453B:							
Muren---------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
618C2:							
Senachwine----------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.01
618C3:							
Senachwine----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.01
618D2:							
Senachwine----------	95	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96
618D3:							
Senachwine----------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.96
802D:							
Orthents, loamy-----	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.37
830B:							
Landfills-----------	90	Not rated		Not rated		Not rated	
842G:							
Hickory-------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel--------	90	Not rated		Not rated		Not rated	
927C2:							
Blair---------------	50	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Atlas---------------	30	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
927C3:							
Blair---------------	50	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Atlas---------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.04

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
946D2:							
Hickory	45	Not limited		Not limited		Somewhat limited	
						Slope	0.96
Atlas	40	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.63
946D3:							
Hickory	45	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
Atlas	40	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.63
991A:							
Cisne	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Sodium content	1.00
						Depth to saturated zone	1.00
3028A:							
Jules	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
3071A:							
Darwin	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40	Too clayey	1.00
3226A:							
Wirt	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
3284A:							
Tice	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
3288A:							
Petrolia	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
3302A:							
Ambraw--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
						Flooding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
3424A:							
Shoals--------------	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Flooding	1.00
						Depth to saturated zone	0.94
		Flooding	0.40	Flooding	0.40		
3431A:							
Genesee-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
3450A:							
Brouillett----------	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Depth to saturated zone	0.22
3597A:							
Armiesburg----------	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
3665A:							
Stonelick-----------	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
7098B:							
Ade-----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.59	Too sandy	0.59	Droughty	1.00
7131B:							
Alvin---------------	90	Not limited		Not limited		Not limited	
7155A:							
Stockland-----------	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.54
7155B:							
Stockland-----------	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.54
7155C:							
Stockland-----------	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.54
						Droughty	0.08
7175B:							
Lamont--------------	90	Not limited		Not limited		Somewhat limited	
						Droughty	0.37
7266B:							
Disco---------------	90	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7286A:							
Carmi	90	Not limited		Not limited		Not limited	
7434B:							
Ridgway	90	Not limited		Not limited		Not limited	
7571A:							
Whitaker	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
8431A:							
Genesee	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Flooding	0.60
8665A:							
Stonelick	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60

Table 13.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
2A: Cisne	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3A: Hoyleton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
3B: Hoyleton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8F: Hickory	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
8G: Hickory	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
12A: Wynoose	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
13A: Bluford	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
13B2: Bluford	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
14B: Ava	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
14C2: Ava	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
31A: Pierron	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
48A: Ebbert	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
50A: Virden	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
79B: Menfro	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
79D2: Menfro	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
109A: Racoon	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
112A: Cowden	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
113A: Oconee	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
113B: Oconee	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
116A: Whitson	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
122B: Colp	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
122D2: Colp	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
131B: Alvin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
131C2: Alvin	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
132A: Starks	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
134A: Camden	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
134B: Camden	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
134C2: Camden	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
136A: Brooklyn	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
138A: Shiloh	Poor	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
149A: Brenton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
152A: Drummer	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
164A: Stoy	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
164B:										
Stoy	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
165A:										
Weir	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
175D2:										
Lamont	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
208A:										
Sexton	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
214B:										
Hosmer	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
218A:										
Newberry	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
219A:										
Millbrook	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
287A:										
Chauncey	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
291B:										
Xenia	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
315A:										
Channahon	Very poor.	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.
434A:										
Ridgway	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
434B:										
Ridgway	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
434D2:										
Ridgway	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
453A:										
Muren	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
453B:										
Muren	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
618C2:										
Senachwine	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
618C3:										
Senachwine	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
618D2:										
Senachwine	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
618D3:										
Senachwine	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
802D:										
Orthents, loamy	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
830B.										
Landfills										
842G:										
Hickory	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Rock outcrop.										
864.										
Pits, quarries										
865.										
Pits, gravel										
927C2:										
Blair	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Atlas	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
927C3:										
Blair	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Atlas	Fair	Good	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
946D2:										
Hickory	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Atlas	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
946D3:										
Hickory	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Atlas	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
991A:										
Cisne	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
Huey	Poor	Fair	Very poor.	Fair	Poor	Good	Good	Poor	Fair	Good.

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
3028A:										
Jules	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3071A:										
Darwin	Poor	Fair	Poor	Fair	Poor	Fair	Good	Poor	Fair	Fair.
3226A:										
Wirt	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3284A:										
Tice	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3288A:										
Petrolia	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3302A:										
Ambraw	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3424A:										
Shoals	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3431A:										
Genesee	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3450A:										
Brouillett	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3597A:										
Armiesburg	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3665A:										
Stonelick	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
7098B:										
Ade	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
7131B:										
Alvin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7155A:										
Stockland	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7155B:										
Stockland	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7155C:										
Stockland	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
7175B:										
Lamont	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
7266B:										
Disco	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
7286A:										
Carmi	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7434B:										
Ridgway	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7571A:										
Whitaker	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
8431A:										
Genesee	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8665A:										
Stonelick	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.01	Shrink-swell	1.00
3A:							
Hoyleton	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.88			Depth to saturated zone	0.88
3B:							
Hoyleton	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
8F:							
Hickory	91	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8G:							
Hickory	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.04	Shrink-swell	0.04	Shrink-swell	0.04
12A:							
Wynoose	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.06	Shrink-swell	1.00
13A:							
Bluford	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
13B2:							
Bluford	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.95	Shrink-swell	1.00	Depth to saturated zone	0.95
14B:							
Ava	90	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.14	Depth to saturated zone	1.00	Shrink-swell	0.14
		Depth to saturated zone	0.07	Shrink-swell	0.14	Depth to saturated zone	0.07

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
14C2:							
Ava	90	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.14	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.07	Shrink-swell	0.14	Shrink-swell	0.14
		Slope	0.01	Slope	0.01	Depth to saturated zone	0.07
31A:							
Pierron	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
48A:							
Ebbert	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.73	Shrink-swell	0.73	Shrink-swell	0.73
50A:							
Virden	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
79B:							
Menfro	90	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.68			Shrink-swell	0.68
79D2:							
Menfro	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.68	Shrink-swell	0.68	Slope	1.00
		Slope	0.37	Slope	0.37	Shrink-swell	0.68
109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Shrink-swell	0.68		
112A:							
Cowden	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
113A:							
Oconee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
113B:							
Oconee----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
116A:							
Whitson---------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Shrink-swell	0.92		
122B:							
Colp------------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	0.98		
122D2:							
Colp------------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.96	Depth to saturated zone	0.98	Shrink-swell	1.00
				Slope	0.96		
131B:							
Alvin-----------------	90	Not limited		Not limited		Not limited	
131C2:							
Alvin-----------------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.50
132A:							
Starks----------------	95	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
134A:							
Camden----------------	94	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
134B:							
Camden----------------	90	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
134C2:							
Camden----------------	97	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Slope	0.97
						Shrink-swell	0.50
136A:							
Brooklyn--------------	93	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
138A:							
Shiloh	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
149A:							
Brenton	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50			Shrink-swell	0.50
152A:							
Drummer	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
164A:							
Stoy	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
164B:							
Stoy	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
165A:							
Weir	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
175D2:							
Lamont	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
208A:							
Sexton	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
214B:							
Hosmer	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
		Shrink-swell	0.01			Shrink-swell	0.01

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
218A:							
Newberry------------	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.62	Shrink-swell	0.98	Shrink-swell	0.62
219A:							
Millbrook-----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.68	Shrink-swell	0.68	Shrink-swell	0.68
287A:							
Chauncey------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Shrink-swell	1.00		
291B:							
Xenia---------------	94	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
315A:							
Channahon-----------	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
434A:							
Ridgway-------------	90	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.73			Shrink-swell	0.73
434B:							
Ridgway-------------	90	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.73			Shrink-swell	0.73
434D2:							
Ridgway-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.73			Shrink-swell	0.73
453A:							
Muren---------------	95	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.68	Shrink-swell	0.68	Shrink-swell	0.68
453B:							
Muren---------------	95	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
		Shrink-swell	0.68			Shrink-swell	0.68
618C2:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.01	Slope	1.00
		Slope	0.01			Shrink-swell	0.50

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
618C3:							
Senachwine----------	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.01	Slope	1.00
		Slope	0.01			Shrink-swell	0.50
618D2:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
618D3:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
802D:							
Orthents, loamy-----	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.37	Depth to saturated zone	0.47	Shrink-swell	0.50
				Slope	0.37		
830B:							
Landfills-----------	90	Not rated		Not rated		Not rated	
842G:							
Hickory-------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.04	Shrink-swell	0.04	Shrink-swell	0.04
Rock outcrop--------	30	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel--------	90	Not rated		Not rated		Not rated	
927C2:							
Blair---------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.44	Shrink-swell	0.44	Slope	0.88
						Shrink-swell	0.44
Atlas---------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.98			Shrink-swell	0.98
						Slope	0.88
927C3:							
Blair---------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.44	Shrink-swell	0.44	Slope	0.88
						Shrink-swell	0.44

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
927C3:							
Atlas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.98	Shrink-swell	0.98	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.98
946D2:							
Hickory	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.04	Shrink-swell	0.04	Shrink-swell	0.04
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.98	Shrink-swell	0.98	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Shrink-swell	0.98
946D3:							
Hickory	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.04	Shrink-swell	0.04	Shrink-swell	0.04
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.98	Shrink-swell	0.98	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Shrink-swell	0.98
991A:							
Cisne	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.99	Shrink-swell	0.01	Shrink-swell	0.99
Huey	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.62	Shrink-swell	0.62	Shrink-swell	0.62
3028A:							
Jules	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
3071A:							
Darwin	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
3226A:							
Wirt	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
3284A:							
Tice	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.95	Depth to saturated zone	1.00	Depth to saturated zone	0.95
		Shrink-swell	0.27	Shrink-swell	0.27	Shrink-swell	0.27
3288A:							
Petrolia	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3302A:							
Ambraw	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3424A:							
Shoals	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3431A:							
Genesee	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
3450A:							
Brouillett	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
3597A:							
Armiesburg	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.73	Shrink-swell	0.73	Shrink-swell	0.73
3665A:							
Stonelick	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
7098B:							
Ade	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
7131B:							
Alvin	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
7155A:							
Stockland	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 14a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
7155B:							
Stockland-----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
7155C:							
Stockland-----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
						Slope	0.88
7175B:							
Lamont--------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
7266B:							
Disco---------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
7286A:							
Carmi---------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
7434B:							
Ridgway-------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.73			Shrink-swell	0.73
7571A:							
Whitaker------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.04			Shrink-swell	0.04
8431A:							
Genesee-------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
8665A:							
Stonelick-----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 14b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
2A:							
Cisne---------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
3A:							
Hoyleton------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.56				
		Frost action	0.50				
3B:							
Hoyleton------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Frost action	0.50				
		Depth to saturated zone	0.19				
8F:							
Hickory-------------	91	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
8G:							
Hickory-------------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Low strength	0.22				
		Shrink-swell	0.04				
12A:							
Wynoose-------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
13A:							
Bluford-------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Too clayey	0.01		
		Depth to saturated zone	0.94				
13B2:							
Bluford-------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.68				
14B:							
Ava-----------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.14				
		Depth to saturated zone	0.03				
14C2:							
Ava-----------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Low strength	1.00	Cutbanks cave	0.10	Slope	0.01
		Shrink-swell	0.14	Slope	0.01		
		Depth to saturated zone	0.03				
		Slope	0.01				
31A:							
Pierron-------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				
48A:							
Ebbert--------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.73				
50A:							
Virden--------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
79B:							
Menfro	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.68				
79D2:							
Menfro	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Slope	0.37	Slope	0.37
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.68				
		Slope	0.37				
109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
112A:							
Cowden	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
113A:							
Oconee	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
113B:							
Oconee	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
116A:							
Whitson	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
122B:							
Colp	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.98		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Too clayey	0.02		

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
122D2:							
Colp	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	0.98	Slope	0.96
		Low strength	1.00	Slope	0.96		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	0.96	Too clayey	0.02		
131B:							
Alvin	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
131C2:							
Alvin	95	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
132A:							
Starks	95	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.48
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Depth to saturated zone	0.48				
134A:							
Camden	94	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
134B:							
Camden	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
134C2:							
Camden	97	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.50				
136A:							
Brooklyn	93	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				
138A:							
Shiloh	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.02		
		Shrink-swell	1.00				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149A:							
Brenton-------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.50		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
152A:							
Drummer-------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
164A:							
Stoy----------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.56				
		Shrink-swell	0.22				
164B:							
Stoy----------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.28
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.28				
		Shrink-swell	0.22				
165A:							
Weir----------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
175D2:							
Lamont--------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.37
208A:							
Sexton--------------	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
214B:							
Hosmer	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.22
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.22				
		Shrink-swell	0.01				
218A:							
Newberry	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.62				
219A:							
Millbrook	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.68				
287A:							
Chauncey	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
291B:							
Xenia	94	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Dense layer	0.50		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Shrink-swell	0.50				
315A:							
Channahon	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	1.00			Droughty	0.13
434A:							
Ridgway	90	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.73				
434B:							
Ridgway	90	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.73				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
434D2:							
Ridgway-------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	1.00	Slope	0.96
		Low strength	1.00	Slope	0.96		
		Slope	0.96				
		Shrink-swell	0.73				
453A:							
Muren---------------	95	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.68				
453B:							
Muren---------------	95	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.68				
		Depth to saturated zone	0.56				
618C2:							
Senachwine----------	95	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Cutbanks cave	0.10	Slope	0.01
		Shrink-swell	0.50	Slope	0.01		
		Frost action	0.50				
		Slope	0.01				
618C3:							
Senachwine----------	90	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Cutbanks cave	0.10	Slope	0.01
		Shrink-swell	0.50	Slope	0.01		
		Frost action	0.50				
		Slope	0.01				
618D2:							
Senachwine----------	95	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Slope	0.96	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
618D3:							
Senachwine----------	95	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Slope	0.96	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
802D:							
Orthents, loamy-----	90	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.47	Slope	0.37
		Shrink-swell	0.50	Slope	0.37		
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.37				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
830B:							
Landfills	90	Not rated		Not rated		Not rated	
842G:							
Hickory	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Low strength	0.22				
		Shrink-swell	0.04				
Rock outcrop	30	Not rated		Not rated		Not rated	
864:							
Pits, quarries	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel	90	Not rated		Not rated		Not rated	
927C2:							
Blair	50	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.99				
		Shrink-swell	0.44				
Atlas	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	0.10		
		Shrink-swell	0.98				
		Frost action	0.50				
927C3:							
Blair	50	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.99				
		Shrink-swell	0.44				
Atlas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.04
		Low strength	1.00	Slope	0.04		
		Shrink-swell	0.98				
		Slope	0.04				
946D2:							
Hickory	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Frost action	0.50	Cutbanks cave	0.10		
		Low strength	0.22				
		Shrink-swell	0.04				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
946D2:							
Atlas---------------	40	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to	1.00	Depth to	0.99
		Depth to	0.99	saturated zone		saturated zone	
		saturated zone		Slope	0.63	Slope	0.63
		Shrink-swell	0.98	Cutbanks cave	0.10		
		Slope	0.63				
		Frost action	0.50				
946D3:							
Hickory-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Low strength	0.22				
		Shrink-swell	0.04				
Atlas---------------	40	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to	1.00	Depth to	0.99
		Depth to	0.99	saturated zone		saturated zone	
		saturated zone		Slope	0.63	Slope	0.63
		Shrink-swell	0.98	Cutbanks cave	0.10		
		Slope	0.63				
		Frost action	0.50				
991A:							
Cisne---------------	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.99				
Huey----------------	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Sodium content	1.00
		saturated zone		saturated zone		Depth to	1.00
		Frost action	1.00	Cutbanks cave	0.10	saturated zone	
		Low strength	1.00				
		Shrink-swell	0.62				
3028A:							
Jules---------------	90	Very limited		Very limited		Very limited	
		Frost action	1.00	Cutbanks cave	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80		
3071A:							
Darwin--------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Flooding	1.00
		saturated zone		saturated zone		Depth to	1.00
		Frost action	1.00	Flooding	0.80	saturated zone	
		Flooding	1.00	Too clayey	0.32	Too clayey	1.00
		Low strength	1.00	Cutbanks cave	0.10		
3226A:							
Wirt----------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Low strength	0.78	Flooding	0.80		
		Frost action	0.50				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
3284A:							
Tice	85	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.68
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.68				
		Shrink-swell	0.27				
3288A:							
Petrolia	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
3302A:							
Ambraw	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
3424A:							
Shoals	90	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94				
3431A:							
Genesee	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
		Frost action	0.50	Cutbanks cave	0.10		
3450A:							
Brouillett	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	0.50	Flooding	0.80	Depth to saturated zone	0.22
		Depth to saturated zone	0.22	Cutbanks cave	0.10		
3597A:							
Armiesburg	85	Very limited		Somewhat limited		Very limited	
		Frost action	1.00	Flooding	0.80	Flooding	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.73				
3665A:							
Stonelick	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Frost action	0.50	Flooding	0.80		

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
7098B:							
Ade------------------	90	Somewhat limited		Very limited		Very limited	
		Flooding	0.40	Cutbanks cave	1.00	Droughty	1.00
7131B:							
Alvin----------------	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Flooding	0.40				
7155A:							
Stockland------------	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.54
		Flooding	0.40				
7155B:							
Stockland------------	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.54
		Flooding	0.40				
7155C:							
Stockland------------	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.54
		Flooding	0.40			Droughty	0.08
7175B:							
Lamont---------------	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.37
		Flooding	0.40				
7266B:							
Disco----------------	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Flooding	0.40				
7286A:							
Carmi----------------	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Flooding	0.40				
7434B:							
Ridgway--------------	90	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.73				
		Flooding	0.40				
7571A:							
Whitaker-------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.96				
		Flooding	0.40				
		Shrink-swell	0.04				
8431A:							
Genesee--------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Frost action	0.50	Cutbanks cave	0.10		

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8665A:							
Stonelick-----------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Flooding	0.60		

Table 15a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
2A:					
Cisne	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
3A:					
Hoyleton	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
3B:					
Hoyleton	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
8F:					
Hickory	91	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.53
8G:					
Hickory	95	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.53
12A:					
Wynoose	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
13A:					
Bluford	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
13B2:					
Bluford	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Slope	0.08
14B:					
Ava	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.44
				Slope	0.08
14C2:					
Ava	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.44
		Slope	0.01		
31A:					
Pierron	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
48A:					
Ebbert	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
50A:					
Virden	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
79B:					
Menfro	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.08
79D2:					
Menfro	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.37	Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
109A:					
Racoon	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
112A:					
Cowden	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
113A:					
Oconee	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
113B:					
Oconee	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
116A:					
Whitson	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
122B:					
Colp	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.02
		Depth to saturated zone	1.00	Depth to saturated zone	0.02
122D2:					
Colp	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.02
		Slope	0.96		
131B:					
Alvin	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
131C2:					
Alvin---------------	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
132A:					
Starks--------------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
134A:					
Camden--------------	94	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
134B:					
Camden--------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.18
		Slow water movement	0.46		
134C2:					
Camden--------------	97	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slow water movement	0.46		
136A:					
Brooklyn------------	93	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
				Depth to saturated zone	1.00
		Ponding	1.00		
		Depth to saturated zone	1.00		
138A:					
Shiloh--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
				Depth to saturated zone	1.00
		Ponding	1.00		
		Depth to saturated zone	1.00		
149A:					
Brenton-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
152A:					
Drummer	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
164A:					
Stoy	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	1.00	Seepage	0.53
164B:					
Stoy	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.83
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.08
165A:					
Weir	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
175D2:					
Lamont	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
208A:					
Sexton	95	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
214B:					
Hosmer	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.32
218A:					
Newberry	95	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
219A:					
Millbrook-----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
287A:					
Chauncey------------	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
291B:					
Xenia---------------	94	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
				Slope	0.32
315A:					
Channahon-----------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Seepage	0.53
434A:					
Ridgway-------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
434B:					
Ridgway-------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.18
		Slow water movement	0.46		
434D2:					
Ridgway-------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
		Slope	0.96		
		Slow water movement	0.46		
453A:					
Muren---------------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
453B:					
Muren	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
				Slope	0.08
618C2:					
Senachwine	95	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.01	Seepage	0.53
618C3:					
Senachwine	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.01	Seepage	0.53
618D2:					
Senachwine	95	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.96	Seepage	0.53
618D3:					
Senachwine	95	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.96	Seepage	0.53
802D:					
Orthents, loamy	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.94	Slope	1.00
		Slow water movement	0.78	Depth to saturated zone	0.40
		Slope	0.37	Seepage	0.21
830B:					
Landfills	90	Not rated		Not rated	
842G:					
Hickory	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.53
Rock outcrop	30	Not rated		Not rated	
864:					
Pits, quarries	90	Not rated		Not rated	
865:					
Pits, gravel	90	Not rated		Not rated	

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
927C2:					
Blair	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
Atlas	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
927C3:					
Blair	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
				Seepage	0.55
Atlas	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04		
946D2:					
Hickory	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.96	Seepage	0.53
Atlas	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.63		
946D3:					
Hickory	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
Atlas	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.63		
991A:					
Cisne	55	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
991A:					
Huey----------------	45	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
3028A:					
Jules---------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Seepage	0.53
3071A:					
Darwin--------------	90	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
3226A:					
Wirt----------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
3284A:					
Tice----------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
3288A:					
Petrolia------------	90	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
3302A:					
Ambraw--------------	90	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.35	Seepage	0.65

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
3424A:					
Shoals	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
3431A:					
Genesee	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
3450A:					
Brouillett	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
3597A:					
Armiesburg	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53
3665A:					
Stonelick	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
7098B:					
Ade	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Flooding	0.40
		Flooding	0.40	Slope	0.08
7131B:					
Alvin	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.08
7155A:					
Stockland	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
7155B:					
Stockland	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.32
7155C:					
Stockland	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Slope	1.00
				Flooding	0.40
7175B:					
Lamont	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.08
7266B:					
Disco	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.08
7286A:					
Carmi	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
7434B:					
Ridgway	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40	Slope	0.18
7571A:					
Whitaker	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
8431A:					
Genesee	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
8665A:					
Stonelick-----------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 15b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
3A:							
Hoyleton------------	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Too clayey	0.50
3B:							
Hoyleton------------	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
8F:							
Hickory-------------	91	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
8G:							
Hickory-------------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
12A:							
Wynoose-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
13A:							
Bluford-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
13B2:							
Bluford-------------	90	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too clayey	0.50			Too clayey	0.50
14B:							
Ava-----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
		Too clayey	0.50			Too clayey	0.50

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
14C2:							
Ava-----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
		Too clayey	0.50	Slope	0.01	Too clayey	0.50
		Slope	0.01			Slope	0.01
31A:							
Pierron-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
48A:							
Ebbert--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
50A:							
Virden--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
79B:							
Menfro--------------	90	Not limited		Not limited		Somewhat limited	
						Too clayey	0.50
79D2:							
Menfro--------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
109A:							
Racoon--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
112A:							
Cowden--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
113A:							
Oconee--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113B:							
Oconee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
116A:							
Whitson	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
122B:							
Colp	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.02	Too clayey	1.00
		Depth to saturated zone	0.62			Depth to saturated zone	0.20
122D2:							
Colp	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.96	Too clayey	1.00
		Slope	0.96	Depth to saturated zone	0.02	Slope	0.96
		Depth to saturated zone	0.62			Depth to saturated zone	0.20
131B:							
Alvin	90	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
		Too sandy	0.50			Too sandy	0.50
131C2:							
Alvin	95	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
		Too sandy	0.50			Too sandy	0.50
132A:							
Starks	95	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Too clayey	0.50			Too clayey	0.50
134A:							
Camden	94	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
134B:							
Camden	90	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Seepage	0.22
134C2:							
Camden	97	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too sandy	0.50
		Too sandy	0.50			Too clayey	0.50
						Seepage	0.22

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136A:							
Brooklyn------------	93	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
138A:							
Shiloh--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
149A:							
Brenton-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Too clayey	0.50
152A:							
Drummer-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
164A:							
Stoy----------------	90	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	0.98
		Too clayey	0.50			Too clayey	0.50
164B:							
Stoy----------------	90	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.83	Depth to saturated zone	0.91
		Too clayey	0.50			Too clayey	0.50
165A:							
Weir----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
175D2:							
Lamont--------------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
208A:							
Sexton	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.50			Too clayey	1.00
						Seepage	0.51
						Too sandy	0.50
214B:							
Hosmer	90	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.78	Depth to saturated zone	0.88
		Too clayey	0.50			Too clayey	0.50
218A:							
Newberry	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
219A:							
Millbrook	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
287A:							
Chauncey	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
291B:							
Xenia	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
315A:							
Channahon	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
434A:							
Ridgway	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
						Too clayey	0.50
434B:							
Ridgway	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
						Too clayey	0.50

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
434D2:							
Ridgway-------------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Slope	0.96	Slope	0.96	Slope	0.96
		Too sandy	0.50			Too sandy	0.50
						Too clayey	0.50
453A:							
Muren---------------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
453B:							
Muren---------------	95	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Too clayey	0.50
618C2:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.01	Slope	0.01	Slope	0.01
618C3:							
Senachwine----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.01	Slope	0.01	Slope	0.01
618D2:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
618D3:							
Senachwine----------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
802D:							
Orthents, loamy-----	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50	Slope	0.37	Slope	0.37
		Slope	0.37				
830B:							
Landfills-----------	90	Not rated		Not limited		Not rated	
842G:							
Hickory-------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Rock outcrop--------	30	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel--------	90	Not rated		Not rated		Not rated	

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
927C2:							
Blair	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Atlas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
927C3:							
Blair	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Atlas	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
946D2:							
Hickory	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Too clayey	0.50			Too clayey	0.50
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
946D3:							
Hickory	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
991A:							
Cisne	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00			Sodium content	1.00
		Too clayey	0.50			Too clayey	0.50

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3028A:							
Jules	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
3071A:							
Darwin	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
3226A:							
Wirt	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00				
3284A:							
Tice	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
3288A:							
Petrolia	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
3302A:							
Ambraw	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
3424A:							
Shoals	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
3431A:							
Genesee	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.52
		Seepage, bottom layer	1.00	Seepage	1.00		
3450A:							
Brouillett	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.88
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.22
		Seepage, bottom layer	1.00				

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3597A:							
Armiesburg----------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Too clayey	0.50				
3665A:							
Stonelick-----------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.52
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	0.50
		Too sandy	0.50				
7098B:							
Ade-----------------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Flooding	0.40	Seepage	1.00
		Too sandy	1.00				
		Flooding	0.40				
7131B:							
Alvin---------------	90	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
				Flooding	0.40	Too sandy	0.50
		Too sandy	0.50				
		Flooding	0.40				
7155A:							
Stockland-----------	90	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.99
				Flooding	0.40	Seepage	0.52
		Flooding	0.40				
7155B:							
Stockland-----------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Flooding	0.40	Gravel content	0.98
		Too sandy	1.00			Seepage	0.52
		Flooding	0.40				
7155C:							
Stockland-----------	90	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.98
				Flooding	0.40	Seepage	0.52
		Flooding	0.40				
7175B:							
Lamont--------------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Flooding	0.40	Seepage	1.00
		Too sandy	1.00				
		Flooding	0.40				
7266B:							
Disco---------------	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Flooding	0.40	Seepage	1.00
		Too sandy	1.00				
		Flooding	0.40				

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7286A:							
Carmi	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40		
7434B:							
Ridgway	90	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.51
		Too sandy	0.50	Flooding	0.40	Too sandy	0.50
		Flooding	0.40			Too clayey	0.50
7571A:							
Whitaker	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.51
		Too sandy	0.50	Flooding	0.40	Too sandy	0.50
		Flooding	0.40				
8431A:							
Genesee	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
8665A:							
Stonelick	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.52
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	0.50
		Too sandy	0.50				

Table 16a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
2A:					
Cisne	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3A:					
Hoyleton	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3B:					
Hoyleton	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
8F:					
Hickory	91	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
8G:					
Hickory	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
12A:					
Wynoose	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
13A:					
Bluford	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
13B2:					
Bluford	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
14B:					
Ava	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
14C2:					
Ava	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
31A:					
Pierron	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
48A:					
Ebbert	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
50A:					
Virden	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
79B:					
Menfro	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
79D2:					
Menfro	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
109A:					
Racoon	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
112A:					
Cowden	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
113A:					
Oconee	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
113B:					
Oconee	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
116A:					
Whitson	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
122B:					
Colp	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
122D2:					
Colp	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
131B:					
Alvin	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
131C2:					
Alvin	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
132A:					
Starks	95	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
134A:					
Camden	94	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
134B:					
Camden	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
134C2:					
Camden	97	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
136A:					
Brooklyn	93	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
138A:					
Shiloh	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
149A:					
Brenton	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
152A:					
Drummer	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
164A:					
Stoy	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
164B:					
Stoy	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
165A:					
Weir----------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
175D2:					
Lamont--------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.36
208A:					
Sexton--------------	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.08
214B:					
Hosmer--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
218A:					
Newberry------------	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
219A:					
Millbrook-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
287A:					
Chauncey------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
291B:					
Xenia---------------	94	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
315A:					
Channahon-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
434A:					
Ridgway-------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
434B:					
Ridgway-------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
434D2:					
Ridgway-------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
453A:					
Muren	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
453B:					
Muren	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
618C2:					
Senachwine	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
618C3:					
Senachwine	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
618D2:					
Senachwine	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
618D3:					
Senachwine	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
802D:					
Orthents, loamy	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
830B:					
Landfills	90	Not rated		Not rated	
842G:					
Hickory	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	30	Not rated		Not rated	
864:					
Pits, quarries	90	Not rated		Not rated	
865:					
Pits, gravel	90	Not rated		Not rated	
927C2:					
Blair	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Atlas	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
927C3:					
Blair	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Atlas	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
946D2:					
Hickory	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Atlas	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
946D3:					
Hickory	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Atlas	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
991A:					
Cisne	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Huey	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3028A:					
Jules	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3071A:					
Darwin	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3226A:					
Wirt	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.11
3284A:					
Tice	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3288A:					
Petrolia	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
3302A:					
Ambraw--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3424A:					
Shoals--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3431A:					
Genesee-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3450A:					
Brouillett----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3597A:					
Armiesburg----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3665A:					
Stonelick-----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
7098B:					
Ade-----------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.94
		Thickest layer	0.00	Bottom layer	0.95
7131B:					
Alvin---------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
7155A:					
Stockland-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.80
7155B:					
Stockland-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.86
7155C:					
Stockland-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.08
7175B:					
Lamont--------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.36

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
7266B:					
Disco	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.36
7286A:					
Carmi	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.84
7434B:					
Ridgway	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
7571A:					
Whitaker	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
8431A:					
Genesee	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
8665A:					
Stonelick	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 16b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne---------------	90	Fair		Poor		Poor	
		Water erosion	0.06	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.20
		Too clayey	0.32	Shrink-swell	0.93	Too acid	0.95
		Too acid	0.46				
3A:							
Hoyleton------------	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Low content of organic matter	0.02	Wetness	0.24	Wetness	0.24
		Water erosion	0.37	Shrink-swell	0.78	Too acid	0.92
		Too acid	0.50				
3B:							
Hoyleton------------	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Low content of organic matter	0.02	Wetness	0.53	Wetness	0.53
		Water erosion	0.37	Shrink-swell	0.91	Too acid	0.88
		Too acid	0.50				
8F:							
Hickory-------------	91	Fair		Poor		Poor	
		Low content of organic matter	0.18	Slope	0.00	Slope	0.00
		Too acid	0.68	Low strength	0.00	Too clayey	0.58
		Too clayey	0.98	Shrink-swell	0.98		
		Water erosion	0.99				
8G:							
Hickory-------------	95	Fair		Poor		Poor	
		Low content of organic matter	0.08	Slope	0.00	Slope	0.00
		Too acid	0.16	Low strength	0.78	Too clayey	0.55
		Too clayey	0.98	Shrink-swell	0.99	Too acid	0.68
						Rock fragments	0.88
12A:							
Wynoose-------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.05	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Shrink-swell	0.94	Too acid	0.50
		Water erosion	0.37				
13A:							
Bluford-------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.05	Wetness	0.04	Wetness	0.04
		Water erosion	0.37	Shrink-swell	0.88	Too acid	0.68
		Too acid	0.50				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
13B2:							
Bluford-------------	90	Fair		Poor		Fair	
		Too clayey	0.08	Low strength	0.00	Too clayey	0.05
		Low content of organic matter	0.32	Wetness	0.18	Wetness	0.18
		Too acid	0.50	Shrink-swell	0.62	Too acid	0.76
		Water erosion	0.90				
14B:							
Ava-----------------	90	Fair		Poor		Fair	
		Too acid	0.20	Low strength	0.00	Too clayey	0.60
		Low content of organic matter	0.24	Wetness	0.76	Wetness	0.76
		Water erosion	0.37	Shrink-swell	0.98	Too acid	0.76
		Too clayey	0.98				
14C2:							
Ava-----------------	90	Fair		Poor		Fair	
		Too acid	0.39	Low strength	0.00	Too clayey	0.69
		Low content of organic matter	0.82	Wetness	0.76	Wetness	0.76
		Water erosion	0.90	Shrink-swell	0.96	Too acid	0.92
		Too clayey	0.98				
31A:							
Pierron-------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.08	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.18	Shrink-swell	0.81	Too acid	0.50
		Water erosion	0.37				
48A:							
Ebbert--------------	90	Fair		Poor		Poor	
		Water erosion	0.37	Wetness	0.00	Wetness	0.00
		Too acid	0.54	Low strength	0.00	Too clayey	0.67
		Low content of organic matter	0.68	Shrink-swell	0.97		
		Too clayey	0.98				
50A:							
Virden--------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Water erosion	0.68	Low strength	0.00	Too clayey	0.00
		Too acid	0.92	Shrink-swell	0.81		
79B:							
Menfro--------------	90	Fair		Poor		Fair	
		Low content of organic matter	0.08	Low strength	0.00	Too clayey	0.58
		Water erosion	0.68	Shrink-swell	0.95		
		Too acid	0.84				
		Too clayey	0.98				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
79D2:							
Menfro--------------	90	Fair		Poor		Fair	
		Low content of organic matter	0.18	Low strength	0.00	Too clayey	0.58
		Too acid	0.54	Shrink-swell	0.97	Slope	0.63
		Water erosion	0.90			Too acid	0.98
		Too clayey	0.98				
109A:							
Racoon--------------	90	Fair		Poor		Poor	
		Low content of organic matter	0.18	Wetness	0.00	Wetness	0.00
		Too acid	0.32	Low strength	0.00	Too acid	0.95
		Water erosion	0.37	Shrink-swell	0.98		
112A:							
Cowden--------------	90	Fair		Poor		Poor	
		Too clayey	0.08	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.24	Low strength	0.00	Too clayey	0.05
		Water erosion	0.37	Shrink-swell	0.78		
		Too acid	0.54				
113A:							
Oconee--------------	90	Fair		Poor		Fair	
		Too clayey	0.08	Low strength	0.00	Wetness	0.04
		Low content of organic matter	0.18	Wetness	0.04	Too clayey	0.05
		Water erosion	0.37	Shrink-swell	0.62		
		Too acid	0.61				
113B:							
Oconee--------------	90	Fair		Poor		Fair	
		Too clayey	0.08	Low strength	0.00	Wetness	0.04
		Low content of organic matter	0.32	Wetness	0.04	Too clayey	0.05
		Too acid	0.68	Shrink-swell	0.50		
		Water erosion	0.68				
116A:							
Whitson-------------	90	Fair		Poor		Poor	
		Too acid	0.12	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.24	Low strength	0.00		
		Water erosion	0.37	Shrink-swell	0.95		
122B:							
Colp----------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.18	Shrink-swell	0.36	Wetness	0.99
		Too acid	0.20	Wetness	0.99		
		Water erosion	0.37				
		Carbonate content	0.68				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
122D2:							
Colp----------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.18	Shrink-swell	0.50	Slope	0.04
		Too acid	0.20	Wetness	0.99	Wetness	0.99
		Water erosion	0.37				
		Carbonate content	0.68				
131B:							
Alvin---------------	90	Fair		Good		Good	
		Low content of organic matter	0.02				
		Too acid	0.68				
131C2:							
Alvin---------------	95	Fair		Good		Good	
		Low content of organic matter	0.02				
		Too acid	0.74				
132A:							
Starks--------------	95	Fair		Poor		Fair	
		Low content of organic matter	0.32	Low strength	0.00	Wetness	0.29
		Water erosion	0.68	Wetness	0.29	Too clayey	0.61
		Too acid	0.68	Shrink-swell	0.99		
		Too clayey	0.98				
134A:							
Camden--------------	94	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.78	Too clayey	0.55
		Water erosion	0.68				
		Too acid	0.84				
		Too clayey	0.92				
134B:							
Camden--------------	90	Fair		Good		Fair	
		Low content of organic matter	0.12			Too clayey	0.55
		Water erosion	0.37				
		Too acid	0.84				
		Too clayey	0.92				
134C2:							
Camden--------------	97	Fair		Good		Fair	
		Low content of organic matter	0.12			Too clayey	0.49
		Too clayey	0.82				
		Water erosion	0.90				
		Too acid	0.97				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
136A:							
Brooklyn------------	93	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Water erosion	0.37	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.50	Shrink-swell	0.64		
		Carbonate content	0.68				
		Too acid	0.92				
138A:							
Shiloh--------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
				Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.22		
149A:							
Brenton-------------	90	Fair		Fair		Fair	
		Low content of organic matter	0.08	Wetness	0.14	Wetness	0.14
						Too clayey	0.64
		Too clayey	0.82				
		Too acid	0.84				
		Water erosion	0.99				
152A:							
Drummer-------------	90	Fair		Poor		Poor	
		Too acid	0.95	Wetness	0.00	Wetness	0.00
		Too clayey	0.98	Low strength	0.00	Too clayey	0.86
		Water erosion	0.99	Shrink-swell	0.99		
164A:							
Stoy----------------	90	Fair		Poor		Fair	
		Low content of organic matter	0.05	Low strength	0.00	Wetness	0.24
				Wetness	0.24	Too clayey	0.58
		Water erosion	0.37	Shrink-swell	0.96	Too acid	0.88
		Too acid	0.50				
		Too clayey	0.98				
164B:							
Stoy----------------	90	Fair		Poor		Fair	
		Low content of organic matter	0.05	Low strength	0.00	Wetness	0.44
				Wetness	0.44	Too clayey	0.60
		Water erosion	0.37	Shrink-swell	0.96	Too acid	0.88
		Too acid	0.50				
		Too clayey	0.98				
165A:							
Weir----------------	90	Fair		Poor		Poor	
		Too clayey	0.08	Wetness	0.00	Wetness	0.00
		Too acid	0.32	Low strength	0.00	Too clayey	0.05
		Low content of organic matter	0.40	Shrink-swell	0.42	Too acid	0.88
		Water erosion	0.68				
175D2:							
Lamont--------------	90	Fair		Good		Poor	
		Low content of organic matter	0.02			Slope	0.00
		Too acid	0.68				
		Droughty	0.97				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
208A:							
Sexton	95	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.05	Shrink-swell	0.84	Too clayey	0.00
						Too acid	0.98
		Water erosion	0.37				
		Too acid	0.54				
214B:							
Hosmer	90	Fair		Poor		Fair	
		Water erosion	0.06	Low strength	0.00	Wetness	0.50
		Low content of organic matter	0.12	Wetness	0.50		
		Too acid	0.68				
218A:							
Newberry	95	Fair		Poor		Poor	
		Low content of organic matter	0.05	Wetness	0.00	Wetness	0.00
				Low strength	0.00	Too clayey	0.56
		Too acid	0.16	Shrink-swell	0.93	Too acid	0.68
		Water erosion	0.37			Sodium content	0.90
		Sodium content	0.90				
		Too clayey	0.92				
219A:							
Millbrook	90	Fair		Fair		Fair	
		Water erosion	0.06	Wetness	0.14	Wetness	0.14
		Low content of organic matter	0.40	Shrink-swell	0.97		
		Too acid	0.84				
287A:							
Chauncey	90	Fair		Poor		Poor	
		Water erosion	0.06	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.18	Low strength	0.00	Too acid	0.92
				Shrink-swell	0.69		
		Too acid	0.39				
291B:							
Xenia	94	Fair		Poor		Fair	
		Low content of organic matter	0.32	Low strength	0.00	Wetness	0.14
				Wetness	0.14	Too clayey	0.61
		Water erosion	0.68	Shrink-swell	0.94		
		Carbonate content	0.68				
		Too acid	0.74				
		Too clayey	0.98				
315A:							
Channahon	90	Poor		Poor		Poor	
		Low content of organic matter	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00				
		Droughty	0.06				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
434A:							
Ridgway-------------	90	Fair		Good		Fair	
		Low content of organic matter	0.02			Too clayey	0.58
		Too acid	0.74				
		Water erosion	0.90				
		Too clayey	0.98				
434B:							
Ridgway-------------	90	Fair		Good		Fair	
		Low content of organic matter	0.02			Too clayey	0.58
		Too acid	0.54				
		Water erosion	0.90				
		Too clayey	0.98				
434D2:							
Ridgway-------------	90	Fair		Good		Fair	
		Low content of organic matter	0.02			Slope	0.04
						Too clayey	0.58
		Too acid	0.54				
		Water erosion	0.90				
		Too clayey	0.98				
453A:							
Muren---------------	95	Fair		Poor		Fair	
		Low content of organic matter	0.24	Low strength	0.00	Wetness	0.14
				Wetness	0.14	Too clayey	0.56
		Too acid	0.32	Shrink-swell	0.96	Too acid	0.88
		Water erosion	0.37				
		Too clayey	0.92				
453B:							
Muren---------------	95	Fair		Poor		Fair	
		Low content of organic matter	0.05	Low strength	0.00	Wetness	0.24
				Wetness	0.24	Too clayey	0.52
		Water erosion	0.37	Shrink-swell	0.96	Too acid	0.98
		Too acid	0.54				
		Too clayey	0.92				
618C2:							
Senachwine----------	95	Fair		Good		Good	
		Low content of organic matter	0.02				
		Carbonate content	0.68				
		Too acid	0.84				
		Water erosion	0.90				
618C3:							
Senachwine----------	90	Fair		Good		Good	
		Low content of organic matter	0.08				
		Carbonate content	0.68				
		Too acid	0.95				
		Water erosion	0.99				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
618D2:							
Senachwine----------	95	Fair		Good		Fair	
		Low content of organic matter	0.02			Slope	0.04
		Carbonate content	0.68				
		Too acid	0.84				
		Water erosion	0.90				
618D3:							
Senachwine----------	95	Fair		Good		Fair	
		Low content of organic matter	0.01			Slope	0.04
		Carbonate content	0.68				
		Water erosion	0.99				
802D:							
Orthents, loamy-----	90	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.63
				Shrink-swell	0.87		
		Water erosion	0.90				
830B:							
Landfills-----------	90	Not rated		Not rated		Not rated	
842G:							
Hickory-------------	65	Fair		Poor		Poor	
		Low content of organic matter	0.08	Slope	0.00	Slope	0.00
				Low strength	0.78	Too clayey	0.55
		Too acid	0.16	Shrink-swell	0.99	Too acid	0.68
		Too clayey	0.98			Rock fragments	0.88
Rock outcrop--------	30	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel--------	90	Not rated		Not rated		Not rated	
927C2:							
Blair---------------	50	Fair		Poor		Poor	
		Low content of organic matter	0.18	Low strength	0.00	Wetness	0.00
				Wetness	0.00	Too clayey	0.58
		Too acid	0.20	Shrink-swell	0.97	Too acid	0.76
		Water erosion	0.90				
		Too clayey	0.98				
Atlas---------------	30	Fair		Poor		Poor	
		Low content of organic matter	0.02	Low strength	0.00	Wetness	0.00
				Wetness	0.00	Too clayey	0.05
		Too clayey	0.08	Shrink-swell	0.93	Too acid	0.98
		Too acid	0.54				
		Water erosion	0.90				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
927C3:							
Blair	50	Fair		Poor		Poor	
		Low content of organic matter	0.18	Low strength	0.00	Wetness	0.00
				Wetness	0.00	Too clayey	0.58
		Too acid	0.20	Shrink-swell	0.97	Too acid	0.76
		Water erosion	0.90				
		Too clayey	0.98				
Atlas	30	Fair		Poor		Poor	
		Low content of organic matter	0.02	Wetness	0.00	Wetness	0.00
				Low strength	0.00	Too clayey	0.05
		Too clayey	0.08	Shrink-swell	0.59	Slope	0.96
		Too acid	0.68				
946D2:							
Hickory	45	Fair		Fair		Fair	
		Low content of organic matter	0.08	Low strength	0.78	Slope	0.04
				Shrink-swell	0.99	Too clayey	0.55
		Too acid	0.54			Rock fragments	0.88
		Too clayey	0.98			Too acid	0.98
Atlas	40	Fair		Poor		Poor	
		Too clayey	0.08	Low strength	0.00	Wetness	0.00
		Too acid	0.12	Wetness	0.00	Too clayey	0.05
		Low content of organic matter	0.18	Shrink-swell	0.75	Slope	0.37
						Too acid	0.59
		Water erosion	0.90				
946D3:							
Hickory	45	Fair		Fair		Poor	
		Low content of organic matter	0.08	Low strength	0.78	Slope	0.00
				Slope	0.98	Too clayey	0.55
		Too acid	0.54	Shrink-swell	0.99	Rock fragments	0.88
		Too clayey	0.98			Too acid	0.98
Atlas	40	Fair		Poor		Poor	
		Too clayey	0.08	Low strength	0.00	Wetness	0.00
		Too acid	0.12	Wetness	0.00	Too clayey	0.05
		Low content of organic matter	0.18	Shrink-swell	0.75	Slope	0.37
						Too acid	0.59
991A:							
Cisne	55	Fair		Poor		Poor	
		Water erosion	0.06	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.20
				Shrink-swell	0.94	Too acid	0.95
		Too clayey	0.32				
		Too acid	0.46				
Huey	45	Poor		Poor		Poor	
		Sodium content	0.00	Wetness	0.00	Wetness	0.00
		Water erosion	0.06	Low strength	0.00	Sodium content	0.00
		Low content of organic matter	0.08	Shrink-swell	0.91	Too clayey	0.52
		Too acid	0.84				
		Too clayey	0.92				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
3028A:							
Jules---------------	90	Fair		Good		Fair	
		Water erosion	0.06			Carbonate content	0.52
		Carbonate content	0.08				
		Low content of organic matter	0.88				
3071A:							
Darwin--------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Too clayey	0.00
				Low strength	0.00	Wetness	0.00
				Shrink-swell	0.16		
3226A:							
Wirt----------------	90	Fair		Fair		Good	
		Low content of organic matter	0.88	Low strength	0.22		
		Water erosion	0.99				
3284A:							
Tice----------------	85	Fair		Poor		Fair	
		Water erosion	0.90	Low strength	0.00	Wetness	0.18
		Low content of organic matter	0.92	Wetness	0.18		
				Shrink-swell	0.94		
3288A:							
Petrolia------------	90	Fair		Poor		Poor	
		Low content of organic matter	0.68	Wetness	0.00	Wetness	0.00
				Low strength	0.00	Too clayey	0.67
		Too clayey	0.98	Shrink-swell	0.87		
		Water erosion	0.99				
		Too acid	0.99				
3302A:							
Ambraw--------------	90	Fair		Poor		Poor	
		Too acid	0.74	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.75			Too clayey	0.64
		Too clayey	0.82				
3424A:							
Shoals--------------	90	Fair		Poor		Fair	
		Low content of organic matter	0.50	Low strength	0.00	Wetness	0.04
				Wetness	0.04		
		Water erosion	0.90				
3431A:							
Genesee-------------	90	Fair		Good		Good	
		Low content of organic matter	0.50				
		Water erosion	0.99				
3450A:							
Brouillett----------	90	Fair		Fair		Fair	
		Low content of organic matter	0.88	Wetness	0.50	Wetness	0.50
		Water erosion	0.99				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
3597A:							
Armiesburg----------	85	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Too clayey	0.70
		Too clayey	0.98	Shrink-swell	0.81		
		Water erosion	0.99				
3665A:							
Stonelick-----------	85	Fair		Good		Good	
		Low content of organic matter	0.50				
		Water erosion	0.99				
7098B:							
Ade-----------------	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Droughty	0.13				
		Low content of organic matter	0.18				
		Too acid	0.95				
7131B:							
Alvin---------------	90	Fair		Good		Good	
		Low content of organic matter	0.02				
		Too acid	0.68				
7155A:							
Stockland-----------	90	Fair		Good		Poor	
		Carbonate content	0.68			Hard to reclaim (rock fragments)	0.00
		Too acid	0.84			Rock fragments	0.00
7155B:							
Stockland-----------	90	Fair		Good		Poor	
		Low content of organic matter	0.02			Hard to reclaim (rock fragments)	0.00
						Rock fragments	0.00
7155C:							
Stockland-----------	90	Fair		Good		Poor	
		Too acid	0.68			Hard to reclaim (rock fragments)	0.00
		Droughty	0.93			Rock fragments	0.00
7175B:							
Lamont--------------	90	Fair		Good		Good	
		Low content of organic matter	0.02				
		Too acid	0.68				
		Droughty	0.97				
7266B:							
Disco---------------	90	Fair		Good		Fair	
		Low content of organic matter	0.02			Too sandy	0.99
		Too acid	0.92				
		Too sandy	0.99				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
7286A:							
Carmi---------------	90	Fair		Good		Good	
		Too acid	0.84				
		Low content of organic matter	0.88				
7434B:							
Ridgway-------------	90	Fair		Good		Fair	
		Low content of organic matter	0.02			Too clayey	0.63
		Too acid	0.54				
		Water erosion	0.90				
		Too clayey	0.98				
7571A:							
Whitaker------------	90	Fair		Fair		Fair	
		Low content of organic matter	0.02	Wetness	0.02	Wetness	0.02
						Too acid	0.99
		Too acid	0.61				
		Water erosion	0.99				
8431A:							
Genesee-------------	90	Fair		Good		Good	
		Water erosion	0.99				
8665A:							
Stonelick-----------	90	Fair		Good		Good	
		Low content of organic matter	0.50				
		Water erosion	0.99				

Table 17a.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Somewhat limited Seepage	 0.04	Very limited Ponding Depth to saturated zone Piping	 1.00 1.00 0.05	Somewhat limited Slow refill Cutbanks cave	 0.28 0.10
3A:							
Hoyleton	90	Somewhat limited Seepage	 0.04	Very limited Depth to saturated zone	 1.00	Somewhat limited Slow refill Cutbanks cave	 0.96 0.10
3B:							
Hoyleton	90	Somewhat limited Seepage	 0.04	Very limited Depth to saturated zone Piping	 1.00 0.01	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	 0.96 0.10 0.01
8F:							
Hickory	91	Very limited Slope Seepage	 1.00 0.72	Somewhat limited Piping	 0.07	Very limited Depth to water	 1.00
8G:							
Hickory	95	Very limited Slope Seepage	 1.00 0.72	Somewhat limited Piping	 0.90	Very limited Depth to water	 1.00
12A:							
Wynoose	90	Somewhat limited Seepage	 0.04	Very limited Ponding Depth to saturated zone Piping	 1.00 1.00 0.01	Somewhat limited Slow refill Cutbanks cave	 0.28 0.10
13A:							
Bluford	90	Somewhat limited Seepage	 0.04	Very limited Depth to saturated zone Piping	 1.00 0.01	Very limited Depth to water	 1.00
13B2:							
Bluford	90	Somewhat limited Seepage	 0.02	Very limited Depth to saturated zone	 1.00	Very limited Depth to water	 1.00
14B:							
Ava	90	Somewhat limited Seepage	 0.72	Somewhat limited Depth to saturated zone Piping	 0.95 0.12	Very limited Depth to water	 1.00

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C2:							
Ava-----------------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.95	Depth to water	1.00
		Seepage	0.04	Piping	0.01		
31A:							
Pierron-------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Cutbanks cave	0.50
				Depth to saturated zone	1.00	Slow refill	0.28
48A:							
Ebbert--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.38		
50A:							
Virden--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.96
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.05		
79B:							
Menfro--------------	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.26	Depth to water	1.00
79D2:							
Menfro--------------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.43	Depth to water	1.00
		Seepage	0.72				
109A:							
Racoon--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.96
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.50		
112A:							
Cowden--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.02		
113A:							
Oconee--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
113B:							
Oconee--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
		Slope	0.02			Cutbanks cave	0.10

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
116A:							
Whitson	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.62		
122B:							
Colp	90	Not limited		Somewhat limited		Very limited	
				Depth to saturated zone	0.62	Depth to water	1.00
				Piping	0.10		
122D2:							
Colp	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.62	Depth to water	1.00
				Piping	0.15		
131B:							
Alvin	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.06	Depth to water	1.00
131C2:							
Alvin	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.06	Depth to water	1.00
		Slope	0.68				
132A:							
Starks	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.77		
				Seepage	0.01		
134A:							
Camden	94	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.56	Depth to water	1.00
134B:							
Camden	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.82	Depth to water	1.00
		Slope	0.02				
134C2:							
Camden	97	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	0.99	Depth to water	1.00
		Slope	0.98	Seepage	0.08		
136A:							
Brooklyn	93	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Ponding	1.00	Depth to water	1.00
				Depth to saturated zone	1.00		
				Piping	0.31		

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
138A:							
Shiloh	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.96
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	0.23		
149A:							
Brenton	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Cutbanks cave	0.50
						Slow refill	0.28
				Piping	0.87		
152A:							
Drummer	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.43		
				Seepage	0.01		
164A:							
Stoy	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.25		
164B:							
Stoy	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.21		
165A:							
Weir	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.13		
175D2:							
Lamont	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
		Slope	1.00				
208A:							
Sexton	95	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Piping	0.82		
				Seepage	0.08		
214B:							
Hosmer	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08				
				Piping	0.95		

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
218A:							
Newberry	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.02	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.79		
219A:							
Millbrook	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.80	Cutbanks cave	0.10
				Seepage	0.01		
287A:							
Chauncey	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.05		
291B:							
Xenia	94	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08	Piping	0.60		
315A:							
Channahon	90	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Depth to water	1.00
434A:							
Ridgway	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
				Seepage	0.08		
434B:							
Ridgway	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.02	Seepage	0.08		
434D2:							
Ridgway	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	0.99	Depth to water	1.00
		Slope	1.00	Seepage	0.08		
453A:							
Muren	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.21	Cutbanks cave	0.10
453B:							
Muren	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.22	Cutbanks cave	0.10

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
618C2:							
Senachwine----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.72				
618C3:							
Senachwine----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.95	Depth to water	1.00
		Seepage	0.72				
618D2:							
Senachwine----------	95	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.98	Depth to water	1.00
		Seepage	0.72				
618D3:							
Senachwine----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.72				
802D:							
Orthents, loamy-----	90	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Piping	0.59	Depth to saturated zone	0.90
		Seepage	0.47			Slow refill	0.53
						Cutbanks cave	0.10
830B:							
Landfills-----------	90	Not rated		Not rated		Not rated	
842G:							
Hickory-------------	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.90	Depth to water	1.00
		Seepage	0.72				
Rock outcrop--------	30	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel--------	90	Not rated		Not rated		Not rated	
927C2:							
Blair---------------	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.92	Depth to saturated zone	1.00	Slow refill	0.28
		Seepage	0.72	Piping	0.30	Cutbanks cave	0.10
Atlas---------------	30	Somewhat limited		Very limited		Very limited	
		Slope	0.92	Depth to saturated zone	1.00	Slow refill	1.00
				Piping	0.06	Cutbanks cave	0.10

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
927C3:							
Blair	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.92	Depth to saturated zone	1.00	Slow refill	0.26
		Seepage	0.74	Piping	0.15	Cutbanks cave	0.10
Atlas	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
946D2:							
Hickory	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.80	Depth to water	1.00
		Seepage	0.72				
Atlas	40	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	1.00
		Seepage	0.01	Piping	0.01	Cutbanks cave	0.10
946D3:							
Hickory	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.67	Depth to water	1.00
		Seepage	0.72				
Atlas	40	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	1.00
		Seepage	0.01			Cutbanks cave	0.10
991A:							
Cisne	55	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.05		
Huey	45	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.02	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
3028A:							
Jules	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Piping	1.00	Depth to water	1.00
3071A:							
Darwin	90	Not limited		Very limited		Very limited	
				Ponding	1.00	Slow refill	1.00
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	0.50		
3226A:							
Wirt	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
				Seepage	0.11		

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3284A:							
Tice----------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.10	Cutbanks cave	0.10
3288A:							
Petrolia------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.96
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.01		
3302A:							
Ambraw--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.79	Ponding	1.00	Slow refill	0.21
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.36		
3424A:							
Shoals--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.88	Cutbanks cave	0.10
3431A:							
Genesee-------------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
3450A:							
Brouillett----------	90	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Piping	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
3597A:							
Armiesburg----------	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.01	Depth to water	1.00
						Slow refill	0.28
3665A:							
Stonelick-----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
7098B:							
Ade-----------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
7131B:							
Alvin---------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.06	Depth to water	1.00
7155A:							
Stockland-----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.84	Depth to water	1.00

Table 17a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7155B:							
Stockland-----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.95	Depth to water	1.00
		Slope	0.08				
7155C:							
Stockland-----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	0.92				
7175B:							
Lamont--------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
7266B:							
Disco---------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
7286A:							
Carmi---------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.84	Depth to water	1.00
7434B:							
Ridgway-------------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.02	Seepage	0.08		
7571A:							
Whitaker------------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.08		
8431A:							
Genesee-------------	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Piping	1.00	Depth to water	1.00
8665A:							
Stonelick-----------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00

Table 17b.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
2A:							
Cisne	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.98
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
3A:							
Hoyleton	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Restricted permeability	0.43
				Depth to saturated zone	1.00	Deep to water	0.05
3B:							
Hoyleton	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Water erosion	1.00	Restricted permeability	0.43
				Depth to saturated zone	1.00	Deep to water	0.11
				Slope	0.16		
8F:							
Hickory	91	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
				Slope	1.00	Very deep to water	1.00
8G:							
Hickory	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Water erosion	0.88	Very deep to water	1.00
12A:							
Wynoose	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.98
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
13A:							
Bluford	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Depth to saturated zone	1.00	Frost action	0.10
						Deep to water	0.01
13B2:							
Bluford	90	Somewhat limited		Very limited		Very limited	
		Slope	0.16	Water erosion	1.00	Restricted permeability	0.96
				Depth to saturated zone	1.00	Frost action	0.10
				Slope	0.16	Deep to water	0.04

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14B:							
Ava	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Water erosion	1.00	Depth to fragipan	0.24
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Slope	0.16	Deep to water	0.17
						Frost action	0.10
14C2:							
Ava	90	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Water erosion	1.00	Slope	0.84
				Depth to saturated zone	1.00	Depth to fragipan	0.45
				Slope	1.00	Restricted permeability	0.21
						Deep to water	0.17
						Frost action	0.10
31A:							
Pierron	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
48A:							
Ebbert	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
50A:							
Virden	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frequent ponding	0.33
				Ponding	1.00	Restricted permeability	0.21
				Depth to saturated zone	1.00	Frost action	0.10
79B:							
Menfro	90	Somewhat limited		Very limited		Very limited	
		Slope	0.16	Water erosion	1.00	Very deep to water	1.00
				Slope	0.16	Frost action	0.10
79D2:							
Menfro	90	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
				Slope	1.00	Very deep to water	1.00
						Frost action	0.10
109A:							
Racoon	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
112A:							
Cowden--------------	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
113A:							
Oconee--------------	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Depth to saturated zone	1.00	Frost action	0.10
						Deep to water	0.01
113B:							
Oconee--------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.26	Water erosion	1.00	Restricted permeability	0.96
				Depth to saturated zone	1.00	Frost action	0.10
				Slope	0.26	Deep to water	0.01
						Slope	0.01
116A:							
Whitson-------------	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Depth to saturated zone	1.00	Frequent ponding	0.33
						Frost action	0.10
122B:							
Colp----------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.09	Water erosion	1.00	Restricted permeability	0.96
				Depth to saturated zone	1.00	Deep to water	0.41
				Slope	0.09	Frost action	0.10
122D2:							
Colp----------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
				Slope	1.00	Restricted permeability	0.96
				Depth to saturated zone	1.00	Deep to water	0.41
						Frost action	0.10
131B:							
Alvin---------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Very deep to water	1.00
				Water erosion	0.12	Cutbanks cave	0.50
131C2:							
Alvin---------------	95	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Very deep to water	1.00
				Water erosion	0.12	Cutbanks cave	0.50
						Slope	0.37

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132A:							
Starks	95	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Restricted permeability	0.21
				Depth to saturated zone	1.00	Frost action	0.10
						Deep to water	0.06
134A:							
Camden	94	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Frost action	0.10
134B:							
Camden	90	Somewhat limited		Very limited		Very limited	
		Slope	0.26	Water erosion	1.00	Very deep to water	1.00
				Slope	0.26	Frost action	0.10
						Slope	0.01
134C2:							
Camden	97	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Water erosion	1.00	Very deep to water	1.00
				Slope	0.99	Slope	0.74
						Frost action	0.10
136A:							
Brooklyn	93	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
138A:							
Shiloh	90	Not limited		Very limited		Somewhat limited	
				Ponding	1.00	Frequent ponding	0.47
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Water erosion	0.88	Frost action	0.10
149A:							
Brenton	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frost action	0.10
				Depth to saturated zone	1.00	Deep to water	0.03
152A:							
Drummer	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frequent ponding	0.33
				Ponding	1.00	Frost action	0.10
				Depth to saturated zone	1.00		

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
164A:							
Stoy----------------	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Depth to fragipan	0.45
				Depth to saturated zone	1.00	Restricted permeability	0.21
						Frost action	0.10
						Deep to water	0.05
164B:							
Stoy----------------	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Water erosion	1.00	Depth to fragipan	0.38
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Slope	0.16	Frost action	0.10
						Deep to water	0.09
165A:							
Weir----------------	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.98
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
175D2:							
Lamont--------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Too sandy	1.00	Very deep to water	1.00
				Water erosion	0.12		
208A:							
Sexton--------------	95	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
214B:							
Hosmer--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.37	Water erosion	1.00	Depth to fragipan	0.92
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Slope	0.37	Deep to water	0.10
						Frost action	0.10
						Slope	0.04
218A:							
Newberry------------	95	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Restricted permeability	0.43
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
						Excess sodium	0.10
219A:							
Millbrook-----------	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Restricted permeability	0.21
				Depth to saturated zone	1.00	Frost action	0.10
						Deep to water	0.03

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
287A:							
Chauncey	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.96
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
291B:							
Xenia	94	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.37	Water erosion	1.00	Frost action	0.10
				Depth to saturated zone	1.00	Slope	0.04
				Slope	0.37	Deep to water	0.03
315A:							
Channahon	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Very deep to water	1.00
				Water erosion	0.88	Depth to bedrock	0.58
						Frost action	0.10
434A:							
Ridgway	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Cutbanks cave	0.50
						Frost action	0.10
434B:							
Ridgway	90	Somewhat limited		Very limited		Very limited	
		Slope	0.26	Water erosion	1.00	Very deep to water	1.00
				Slope	0.26	Cutbanks cave	0.50
						Frost action	0.10
						Slope	0.01
434D2:							
Ridgway	90	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
				Slope	1.00	Very deep to water	1.00
						Cutbanks cave	0.50
						Frost action	0.10
453A:							
Muren	95	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frost action	0.10
				Depth to saturated zone	1.00	Deep to water	0.03
453B:							
Muren	95	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Water erosion	1.00	Frost action	0.10
				Depth to saturated zone	1.00	Deep to water	0.05
				Slope	0.16		

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
618C2:							
Senachwine----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Very deep to water	1.00
				Slope	1.00	Slope	0.84
						Depth to dense layer	0.71
						Restricted permeability	0.21
618C3:							
Senachwine----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Very deep to water	1.00
				Water erosion	0.88	Slope	0.84
						Restricted permeability	0.21
						Depth to dense layer	0.20
618D2:							
Senachwine----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
				Slope	1.00	Very deep to water	1.00
						Restricted permeability	0.21
						Depth to dense layer	0.16
618D3:							
Senachwine----------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Water erosion	0.12	Very deep to water	1.00
						Depth to dense layer	0.84
						Restricted permeability	0.21
802D:							
Orthents, loamy-----	90	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Very deep to water	1.00
				Slope	1.00	Slope	1.00
						Restricted permeability	0.21
830B:							
Landfills-----------	90	Not rated		Not rated		Not rated	
842G:							
Hickory-------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Water erosion	0.88	Very deep to water	1.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
865:							
Pits, gravel--------	90	Not rated		Not rated		Not rated	
927C2:							
Blair---------------	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.96	Water erosion	1.00	Slope	0.63
				Depth to saturated zone	1.00	Restricted permeability	0.22
				Slope	0.96	Frost action	0.10
Atlas---------------	30	Somewhat limited		Very limited		Very limited	
		Slope	0.96	Water erosion	1.00	Restricted permeability	0.98
				Depth to saturated zone	1.00	Slope	0.63
				Slope	0.96		
927C3:							
Blair---------------	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.96	Water erosion	1.00	Slope	0.63
				Depth to saturated zone	1.00	Restricted permeability	0.22
				Slope	0.96	Frost action	0.10
Atlas---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Restricted permeability	0.98
				Slope	1.00	Slope	0.96
				Water erosion	0.88	Frost action	0.10
946D2:							
Hickory-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Water erosion	0.88	Very deep to water	1.00
Atlas---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
				Slope	1.00	Restricted permeability	0.85
				Depth to saturated zone	1.00		
946D3:							
Hickory-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Water erosion	0.88	Very deep to water	1.00
Atlas---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	1.00	Restricted permeability	0.85
				Water erosion	0.88		

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
991A:							
Cisne	55	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	0.98
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Frost action	0.10
Huey	45	Not limited		Very limited		Very limited	
				Water erosion	1.00	Excess sodium	1.00
				Ponding	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frequent ponding	0.33
						Frost action	0.10
3028A:							
Jules	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Frequent flooding	0.35
						Frost action	0.10
3071A:							
Darwin	90	Not limited		Very limited		Very limited	
				Ponding	1.00	Restricted permeability	0.98
				Depth to saturated zone	1.00	Frequent flooding	0.35
				Water erosion	0.50	Frequent ponding	0.33
						Frost action	0.10
3226A:							
Wirt	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Frequent flooding	0.35
3284A:							
Tice	85	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frequent flooding	0.35
				Depth to saturated zone	1.00	Frost action	0.10
						Deep to water	0.04
3288A:							
Petrolia	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frequent flooding	0.35
				Ponding	1.00	Frequent ponding	0.33
				Depth to saturated zone	1.00	Restricted permeability	0.21
						Frost action	0.10
3302A:							
Ambraw	90	Not limited		Very limited		Somewhat limited	
				Ponding	1.00	Frequent flooding	0.35
				Depth to saturated zone	1.00	Frequent ponding	0.33
				Water erosion	0.50	Frost action	0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3424A:							
Shoals	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frequent flooding	0.35
				Depth to saturated zone	1.00	Frost action	0.10
						Deep to water	0.01
3431A:							
Genesee	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Frequent flooding	0.35
3450A:							
Brouillett	90	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Frequent flooding	0.35
				Water erosion	0.88	Deep to water	0.10
3597A:							
Armiesburg	85	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Frequent flooding	0.35
						Frost action	0.10
3665A:							
Stonelick	85	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Cutbanks cave	0.50
						Frequent flooding	0.35
7098B:							
Ade	90	Somewhat limited		Very limited		Very limited	
		Slope	0.16	Too sandy	1.00	Very deep to water	1.00
				Slope	0.16	Cutbanks cave	0.50
						Rare flooding	0.05
7131B:							
Alvin	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Water erosion	0.50	Very deep to water	1.00
				Slope	0.16	Cutbanks cave	0.50
						Rare flooding	0.05
7155A:							
Stockland	90	Not limited		Not limited		Very limited	
						Very deep to water	1.00
						Rare flooding	0.05
7155B:							
Stockland	90	Somewhat limited		Very limited		Very limited	
		Slope	0.37	Too sandy	1.00	Very deep to water	1.00
				Slope	0.37	Cutbanks cave	0.50
						Rare flooding	0.05
						Slope	0.04

Table 17b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7155C:							
Stockland-----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Very deep to water	1.00
		Content of large stones	0.01	Content of large stones	0.01	Slope	0.63
						Rare flooding	0.05
7175B:							
Lamont--------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.16	Too sandy	1.00	Very deep to water	1.00
				Slope	0.16	Rare flooding	0.05
				Water erosion	0.12		
7266B:							
Disco---------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.16	Too sandy	1.00	Very deep to water	1.00
				Slope	0.16	Cutbanks cave	0.50
						Rare flooding	0.05
7286A:							
Carmi---------------	90	Not limited		Somewhat limited		Very limited	
				Water erosion	0.12	Very deep to water	1.00
						Rare flooding	0.05
7434B:							
Ridgway-------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.26	Water erosion	1.00	Very deep to water	1.00
				Slope	0.26	Cutbanks cave	0.50
						Frost action	0.10
						Rare flooding	0.05
						Slope	0.01
7571A:							
Whitaker------------	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Cutbanks cave	0.50
				Depth to saturated zone	1.00	Frost action	0.10
						Rare flooding	0.05
						Deep to water	0.01
8431A:							
Genesee-------------	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Occasional flooding	0.10
8665A:							
Stonelick-----------	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Very deep to water	1.00
						Cutbanks cave	0.50
						Occasional flooding	0.10

Table 17c.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value
2A:					
Cisne	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
				Excess sodium	0.02
		Drains slowly	0.49		
3A:					
Hoyleton	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
				Excess sodium	0.22
3B:					
Hoyleton	90	Very limited		Not limited	
		Slope	1.00		
		Depth to saturated zone	0.99		
		Too acid	0.04		
		Water erosion	0.01		
8F:					
Hickory	91	Very limited		Not limited	
		Slope	1.00		
		Water erosion	1.00		
8G:					
Hickory	95	Very limited		Not limited	
		Slope	1.00		
		Water erosion	1.00		
		Too acid	0.08		
		Low water-holding capacity	0.01		
12A:					
Wynoose	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
				Excess sodium	0.02
		Drains slowly	0.49		
		Too acid	0.22		
13A:					
Bluford	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
				Excess sodium	0.22
		Drains slowly	0.29		
		Too acid	0.08		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value	Drip or trickle irrigation: Rating class and limiting features	Value
13B2:					
Bluford	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
				Excess sodium	0.22
		Slope	1.00		
		Drains slowly	0.30		
		Too acid	0.04		
		Water erosion	0.01		
14B:					
Ava	90	Very limited		Not limited	
		Slope	1.00		
		Drains slowly	0.98		
		Depth to saturated zone	0.82		
		Water erosion	0.04		
		Too acid	0.04		
14C2:					
Ava	90	Very limited		Not limited	
		Slope	1.00		
		Water erosion	0.99		
		Drains slowly	0.98		
		Depth to saturated zone	0.82		
31A:					
Pierron	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.98		
		Too acid	0.22		
48A:					
Ebbert	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		
50A:					
Virden	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
79B:					
Menfro	90	Very limited		Not limited	
		Slope	1.00		
		Water erosion	0.04		
79D2:					
Menfro	90	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value	Drip or trickle irrigation: Rating class and limiting features	Value
109A:					
Racoon	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		
112A:					
Cowden	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		
113A:					
Oconee	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		
113B:					
Oconee	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Slope	1.00		
		Drains slowly	0.29		
		Water erosion	0.04		
116A:					
Whitson	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00
				Wetness	1.00
		Ponding	0.50		
		Drains slowly	0.29		
		Too acid	0.14		
122B:					
Colp	90	Somewhat limited		Not limited	
		Slope	0.88		
		Drains slowly	0.29		
		Water erosion	0.07		
		Depth to saturated zone	0.04		
		Too acid	0.04		
122D2:					
Colp	90	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		
		Drains slowly	0.29		
		Depth to saturated zone	0.04		
131B:					
Alvin	90	Very limited		Not limited	
		Wind erosion	1.00		
		Slope	1.00		
		Low water-holding capacity	0.05		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value
131C2:					
Alvin---------------	95	Very limited		Not limited	
		Wind erosion	1.00		
		Slope	1.00		
		Water erosion	0.02		
		Low water-holding capacity	0.01		
132A:					
Starks--------------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
134A:					
Camden--------------	94	Not limited		Not limited	
134B:					
Camden--------------	90	Very limited		Not limited	
		Slope	1.00		
		Water erosion	0.13		
134C2:					
Camden--------------	97	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		
136A:					
Brooklyn------------	93	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		
138A:					
Shiloh--------------	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
149A:					
Brenton-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
152A:					
Drummer-------------	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
164A:					
Stoy----------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value
164B:					
Stoy----------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Slope	1.00		
		Drains slowly	0.29		
		Water erosion	0.04		
165A:					
Weir----------------	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.48		
175D2:					
Lamont--------------	90	Very limited		Not limited	
		Wind erosion	1.00		
		Water erosion	1.00		
		Slope	1.00		
		Low water-holding capacity	0.65		
208A:					
Sexton--------------	95	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		
214B:					
Hosmer--------------	90	Very limited		Not limited	
		Depth to saturated zone	1.00		
		Slope	1.00		
		Drains slowly	0.53		
		Water erosion	0.26		
218A:					
Newberry------------	95	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
				Excess sodium	0.90
		Too acid	0.08		
		Excess sodium	0.04		
219A:					
Millbrook-----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
287A:					
Chauncey------------	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
		Drains slowly	0.29		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value	Drip or trickle irrigation: Rating class and limiting features	Value
291B:					
Xenia	94	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Slope	1.00		
		Water erosion	0.26		
315A:					
Channahon	90	Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Drains slowly	0.60		
		Low water-holding capacity	0.42		
434A:					
Ridgway	90	Not limited		Not limited	
434B:					
Ridgway	90	Very limited		Not limited	
		Slope	1.00		
		Water erosion	0.13		
434D2:					
Ridgway	90	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		
453A:					
Muren	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
453B:					
Muren	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Slope	1.00		
		Water erosion	0.04		
618C2:					
Senachwine	95	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		
618C3:					
Senachwine	90	Very limited		Not limited	
		Slope	1.00		
		Water erosion	0.90		
618D2:					
Senachwine	95	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		
618D3:					
Senachwine	95	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value
802D:					
Orthents, loamy	90	Very limited		Not rated	
		Water erosion	1.00		
		Slope	1.00		
		Low water-holding capacity	0.01		
830B:					
Landfills	90	Not rated		Not rated	
842G:					
Hickory	65	Very limited		Not limited	
		Slope	1.00		
		Water erosion	1.00		
		Too acid	0.08		
Rock outcrop	30	Not rated		Not rated	
864:					
Pits, quarries	90	Not rated		Not rated	
865:					
Pits, gravel	90	Not rated		Not rated	
927C2:					
Blair	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Water erosion	1.00		
		Slope	1.00		
		Too acid	0.04		
Atlas	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Water erosion	1.00		
		Slope	1.00		
		Drains slowly	0.50		
927C3:					
Blair	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Slope	1.00		
		Water erosion	0.71		
		Too acid	0.04		
Atlas	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Slope	1.00		
		Water erosion	0.99		
		Drains slowly	0.50		
946D2:					
Hickory	45	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value
946D2:					
Atlas	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Water erosion	1.00		
		Slope	1.00		
		Too acid	0.14		
946D3:					
Hickory	45	Very limited		Not limited	
		Water erosion	1.00		
		Slope	1.00		
Atlas	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
		Water erosion	1.00		
		Slope	1.00		
		Too acid	0.14		
991A:					
Cisne	55	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Wetness	1.00
				Excess sodium	0.02
		Drains slowly	0.49		
Huey	45	Very limited		Very limited	
		Ponding	1.00	Excess sodium	1.00
		Depth to saturated zone	1.00	Ponding	1.00
				Wetness	1.00
		Excess sodium	1.00		
		Drains slowly	0.97		
3028A:					
Jules	90	Somewhat limited		Very limited	
		Flooding	0.70	Flooding	1.00
3071A:					
Darwin	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00
				Wetness	1.00
		Flooding	0.70		
		Drains slowly	0.49		
3226A:					
Wirt	90	Somewhat limited		Very limited	
		Flooding	0.70	Flooding	1.00
3284A:					
Tice	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
				Wetness	1.00
		Flooding	0.70		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value
3288A:					
Petrolia------------	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.70	Wetness	1.00
3302A:					
Ambraw-------------	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.70	Wetness	1.00
3424A:					
Shoals-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.70	Wetness	1.00
3431A:					
Genesee------------	90	Somewhat limited		Very limited	
		Flooding	0.70	Flooding	1.00
3450A:					
Brouillett---------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.70		
3597A:					
Armiesburg---------	85	Somewhat limited		Very limited	
		Flooding	0.70	Flooding	1.00
3665A:					
Stonelick----------	85	Somewhat limited		Very limited	
		Flooding	0.70	Flooding	1.00
7098B:					
Ade----------------	90	Very limited		Not limited	
		Sandy textures	1.00		
		Wind erosion	1.00		
		Low water-holding capacity	1.00		
		Slope	1.00		
7131B:					
Alvin--------------	90	Very limited		Not limited	
		Wind erosion	1.00		
		Slope	1.00		
		Low water-holding capacity	0.05		
7155A:					
Stockland----------	90	Somewhat limited		Not limited	
		Low water-holding capacity	0.08		

Table 17c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7155B:					
Stockland-----------	90	Very limited		Not limited	
		Slope	1.00		
		Low water-holding capacity	0.01		
7155C:					
Stockland-----------	90	Very limited		Not limited	
		Slope	1.00		
		Low water-holding capacity	0.35		
7175B:					
Lamont--------------	90	Very limited		Not limited	
		Wind erosion	1.00		
		Slope	1.00		
		Low water-holding capacity	0.65		
7266B:					
Disco---------------	90	Very limited		Not limited	
		Wind erosion	1.00		
		Slope	1.00		
		Low water-holding capacity	0.02		
7286A:					
Carmi---------------	90	Very limited		Not limited	
		Wind erosion	1.00		
		Low water-holding capacity	0.08		
7434B:					
Ridgway-------------	90	Very limited		Not limited	
		Slope	1.00		
		Water erosion	0.13		
7571A:					
Whitaker------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Wetness	1.00
8431A:					
Genesee-------------	90	Very limited		Not limited	
		Wind erosion	1.00		
		Flooding	0.40		
8665A:					
Stonelick-----------	90	Very limited		Not limited	
		Wind erosion	1.00		
		Flooding	0.40		
		Low water-holding capacity	0.07		

Table 18.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2A:												
Cisne-----------	0-8	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	23-38	6-13
	8-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	21-32	6-13
	17-37	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	37-60	Silty clay loam, silt loam, clay loam, loam	CL	A-6, A-7-6	0	0	95-100	84-100	75-99	60-90	31-46	13-25
	60-80	Silt loam, loam, clay loam, silty clay loam	CL	A-7-6, A-6	0	0	95-100	82-97	75-97	55-90	29-44	13-25
3A:												
Hoyleton--------	0-8	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	25-44	7-18
	8-11	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-38	12-19
	11-39	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	39-80	Silt loam, silty clay loam, clay loam, loam	CL, ML	A-6, A-7-6	0	0	100	95-100	80-100	60-97	28-46	12-25
3B:												
Hoyleton--------	0-8	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	25-44	7-18
	8-15	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-38	12-19
	15-34	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	34-60	Silt loam, silty clay loam, clay loam, loam	CL	A-6, A-7-6	0	0	100	95-100	80-100	60-97	28-46	12-25

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
8F:												
Hickory---------	0-4	Silt loam	CL, ML	A-6, A-4	0	0-5	95-100	91-100	85-100	65-95	24-41	7-17
	4-12	Silt loam, loam	CL	A-6, A-4	0	0-5	95-100	91-100	80-100	50-90	25-33	9-15
	12-46	Clay loam, loam, silty clay loam, gravelly clay loam	CL, SC	A-6, A-7-6	0-1	0-5	85-100	70-100	60-100	40-90	34-46	16-25
	46-58	Loam, clay loam, gravelly clay loam	CL, SC	A-6, A-4, A-7-6	0-1	0-5	85-100	70-100	55-100	36-85	25-42	9-22
	58-80	Loam, sandy loam, gravelly clay loam	CL, SC	A-6, A-2-4, A-2-6, A-4	0-1	0-5	85-100	70-97	55-97	30-80	25-40	9-21
8G:												
Hickory---------	0-5	Loam	SC-SM, CL-ML, SM	A-4	0	0	100	85-100	65-100	45-80	15-25	4-7
	5-8	Loam	SC-SM, CL-ML, SM	A-4	0	0	100	85-100	65-100	45-80	15-25	4-7
	8-52	Clay loam, loam	CL, SC, ML	A-6	0	0-1	90-100	75-98	60-95	40-80	32-39	11-18
	52-60	Loam	SC-SM, CL-ML, CL, SC, ML	A-6, A-4	0	0-1	90-100	75-95	65-95	40-75	22-33	4-13
12A:												
Wynoose---------	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	22-36	6-13
	7-20	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	21-32	6-13
	20-36	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-54	25-31
	36-66	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0	98-100	92-100	80-100	65-90	35-46	17-25
	66-80	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0	98-100	87-100	75-100	60-90	35-46	17-25

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
13A:												
Bluford---------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-98	22-34	6-12
	7-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-98	25-36	9-17
	20-35	Silty clay, silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	35-60	Silty clay loam, silt loam, loam	CL	A-7-6, A-6	0	0	100	98-100	90-100	70-90	31-46	13-25
13B2:												
Bluford---------	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-99	26-36	9-15
	9-37	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-54	25-31
	37-60	Silty clay loam, loam, clay loam, silt loam	CL	A-6	0	0	100	95-100	85-100	65-90	31-41	13-21
14B:												
Ava-------------	0-6	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-99	24-36	7-13
	6-14	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-99	23-32	7-13
	14-34	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-46	17-25
	34-50	Silty clay loam, loam, silt loam, clay loam	CL	A-6	0	0	100	93-100	85-100	65-90	31-41	13-21
	50-60	Loam, silty clay loam, clay loam, silt loam	CL	A-6	0	0	100	97-100	90-100	70-90	29-40	13-21

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
14C2:												
Ava-------------	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-99	26-36	9-15
	7-31	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-47	17-25
	31-50	Silty clay loam, silt loam, loam, clay loam	CL	A-7-6, A-6	0	0	100	93-100	85-100	65-90	31-42	13-21
	50-60	Silty clay loam, loam, clay loam, silt loam	CL	A-6	0	0	100	97-100	90-100	75-90	29-40	13-21
31A:												
Pierron---------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	24-41	7-17
	8-20	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-33	6-15
	20-36	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	93-100	45-56	25-33
	36-66	Silty clay loam, silty clay	CH, CL	A-7-6, A-6	0	0	100	100	95-100	93-100	37-52	19-30
	66-80	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	90-100	75-100	29-40	13-21
48A:												
Ebbert----------	0-13	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	96-100	90-100	24-35	5-13
	13-22	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	96-100	89-100	24-35	6-14
	22-48	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	96-100	89-100	37-46	16-24
	48-60	Clay loam, silt loam, silty clay loam	CL	A-6	0	0	95-100	92-100	82-100	69-95	29-40	11-21
50A:												
Virden----------	0-11	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	96-100	90-100	24-35	5-13
	11-36	Silty clay, silty clay loam	CL, CH	A-7-6	0	0	100	100	98-100	94-100	45-54	22-29
	36-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	98-100	94-100	29-40	11-21

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
79B:												
Menfro----------	0-10	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	94-100	90-98	21-37	4-16
	10-39	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-99	37-46	16-24
	39-70	Silt loam, silty clay loam	CL	A-6	0	0	100	100	97-100	91-100	29-40	11-21
	70-80	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	97-100	91-100	24-35	7-16
79D2:												
Menfro----------	0-8	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	94-100	90-98	21-37	4-16
	8-35	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-99	37-46	16-24
	35-49	Silt loam, silty clay loam	CL	A-6	0	0	100	100	97-100	91-100	29-40	11-21
	49-75	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	97-100	91-100	24-35	7-16
109A:												
Racoon----------	0-6	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	96-100	90-100	85-100	23-35	5-14
	6-30	Silt loam	ML, CL	A-6, A-4	0	0	100	96-100	90-100	85-100	24-35	7-16
	30-59	Silty clay loam	CL	A-7-6, A-6	0	0	100	96-100	90-100	85-100	37-46	16-25
	59-73	Silt loam, loam	CL	A-6, A-4	0	0	100	97-100	85-100	65-95	27-37	9-18
112A:												
Cowden----------	0-8	Silt loam	CL-ML, ML, CL	A-6, A-4	0	0	100	100	96-100	88-99	22-36	6-13
	8-19	Silt loam	CL	A-6, A-4	0	0	100	100	96-100	87-97	27-37	9-17
	19-50	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	98-100	94-99	45-54	23-30
	50-80	Silt loam, silty clay loam	CL	A-6	0	0	100	91-100	89-100	86-99	29-40	11-21

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
113A:												
Oconee----------	0-9	Silt loam	CL-ML, ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	22-36	6-13
	9-12	Silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	94-100	35-45	15-25
	12-33	Silty clay loam, silty clay	CH	A-7-6	0	0	100	100	95-100	94-100	50-60	30-35
	33-56	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	94-100	35-50	15-30
	56-74	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-7-6, A-6	0	0	100	100	90-100	71-96	35-45	15-25
113B:												
Oconee----------	0-8	Silt loam	CL-ML, ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	23-38	6-13
	8-16	Silt loam	CL	A-6	0	0	100	100	95-100	94-100	28-38	12-19
	16-47	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	94-100	46-54	25-31
	47-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	94-100	31-46	13-25
	65-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	97-100	90-100	71-96	29-40	13-21
116A:												
Whitson---------	0-10	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	93-100	84-99	24-37	6-16
	10-23	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	94-100	84-99	24-37	7-18
	23-30	Silty clay loam	CL, CH	A-7-6, A-7-5	0	0	100	100	97-100	90-100	40-52	19-30
	30-52	Silty clay loam, silt loam	CL	A-6	0	0	100	100	97-100	90-100	30-40	15-21
	52-62	Silt loam	CL	A-6, A-4	0	0	100	100	97-100	88-100	24-37	7-18
	62-80	Silt loam, loam	CL	A-6, A-4	0	0	95-100	91-100	78-100	51-90	25-30	7-15

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
122B:												
Colp------------	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	25-35	10-20
	8-11	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	25-35	10-20
	11-19	Silty clay loam	CL	A-6	0	0	100	100	93-100	85-97	33-39	12-17
	19-54	Silty clay, silty clay loam	CL, MH	A-7-6, A-7-5	0	0	100	100	94-100	86-98	40-55	15-24
	54-60	Stratified silt loam to silty clay	ML, CL	A-7-6, A-6	0	0	100	100	94-100	81-99	32-45	10-20
122D2:												
Colp------------	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	25-35	10-20
	8-11	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	25-35	10-20
	11-19	Silty clay loam	CL	A-6	0	0	100	100	93-100	85-97	33-39	12-17
	19-49	Silty clay, silty clay loam	CL, MH	A-7-6, A-7-5	0	0	100	100	94-100	86-98	40-55	15-24
	49-60	Stratified silt loam to silty clay	ML, CL	A-7-6, A-6	0	0	100	100	94-100	81-99	32-45	10-20
131B:												
Alvin-----------	0-8	Fine sandy loam	SC-SM, CL, ML, SM, CL-ML	A-4	0	0	100	100	81-96	35-55	15-25	3-8
	8-11	Fine sandy loam, sandy loam	SC-SM, CL, ML, SM, CL-ML	A-4	0	0	100	100	81-96	35-55	15-25	NP-8
	11-25	Fine sandy loam, sandy loam, loam	SC, CL	A-4	0	0	100	95-100	77-96	35-64	15-30	7-11
	25-80	Stratified loamy fine sand to fine sandy loam, very fine sand, fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0	92-100	92-100	77-96	14-50	11-17	NP-4

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
131C2:												
Alvin-----------	0-10	Fine sandy loam	SC-SM, CL, ML, SM, CL-ML	A-4	0	0	100	100	81-96	35-55	15-25	3-8
	10-30	Fine sandy loam, sandy loam, loam	SC, CL	A-4	0	0	100	95-100	77-96	35-64	20-30	7-11
	30-60	Stratified loamy fine sand to fine sandy loam, very fine sand, fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0	92-100	92-100	77-96	14-50	11-17	NP-4
132A:												
Starks----------	0-8	Silt loam	CL, ML	A-6, A-4	0	0	100	97-100	95-100	85-100	24-40	9-15
	8-13	Silt loam	CL, ML	A-6, A-4	0	0	100	97-100	95-100	85-100	24-40	9-15
	13-36	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	17-24
	36-44	Sandy loam, sandy clay loam	SC, SM, CL, SC-SM, CL-ML	A-4, A-6, A-2-4, A-2-6	0	0	100	90-100	50-100	30-70	22-35	4-15
	44-60	Stratified sandy loam to loam to sandy clay loam	SC, SC-SM, SM, CL-ML, CL, ML	A-2-4, A-4	0	0	85-100	75-100	40-100	25-70	19-28	2-10
134A:												
Camden----------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	8-13	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	25-35	10-20
	13-30	Silty clay loam	CL	A-6, A-7-6	0	0	98-100	95-100	90-100	80-100	35-45	15-25
	30-38	Silty clay loam, silt loam	CL	A-6	0	0	98-100	95-100	90-100	80-100	25-35	10-20
	38-56	Clay loam, loam, sandy loam	CL, SC	A-6	0	0	95-100	85-100	70-100	40-84	25-35	10-15
	56-60	Stratified sandy loam to loam to sandy clay loam	SC, CL-ML, CL, SC-SM, SM, ML	A-4, A-6, A-2-4, A-2-6	0	0	95-100	80-100	60-99	30-60	25-30	5-15

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
134B:												
Camden----------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-7-6, A-6	0	0	100	100	95-100	95-100	27-42	9-18
	9-14	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-38	9-19
	14-22	Silty clay loam, silt loam	CL	A-6	0	0	100	100	97-100	95-100	31-38	15-19
	22-35	Silty clay loam	CL	A-6, A-7-6	0	0	98-100	95-100	90-100	80-100	37-46	19-25
	35-52	Clay loam, loam, sandy loam	CL, SC	A-6	0	0	95-100	85-100	70-100	40-84	27-40	12-21
	52-80	Stratified sandy loam to loam to sandy clay loam	SC, CL-ML, CL, SC-SM, SM	A-4, A-6, A-2-4, A-2-6	0	0	95-100	80-100	60-99	30-60	20-33	6-15
134C2:												
Camden----------	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	26-41	9-19
	7-34	Silt loam, silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	91-100	35-46	17-25
	34-43	Loam, clay loam	CL, SC	A-6, A-7-6	0	0-5	90-100	90-100	77-96	48-77	32-42	15-21
	43-80	Stratified loamy sand to sandy clay loam	SM, SC, SC-SM	A-2-4, A-4, A-1-b, A-6, A-2-6	0	0-5	90-100	80-100	40-89	15-45	16-35	2-17
136A:												
Brooklyn--------	0-9	Silt loam	ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	28-40	9-15
	9-14	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	24-34	9-15
	14-40	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	45-56	25-33
	40-62	Clay loam, gravelly clay loam	CL, SC	A-6, A-7-6	0	0-2	75-95	70-90	55-90	40-80	37-50	19-29
	62-73	Stratified sandy loam to loam	SC-SM, SC, CL-ML, CL, ML	A-6, A-4, A-2-4, A-2-6	0	0	85-100	80-100	55-100	30-85	20-37	6-19
	73-80	Loam	CL, SC	A-4, A-6	0-1	0-3	85-100	75-98	65-95	40-80	22-35	7-17

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
138A:												
Shiloh----------	0-19	Silty clay loam	MH	A-7-6, A-7-5	0	0	100	100	95-100	84-98	51-61	25-29
	19-48	Silty clay, silty clay loam	CH, MH	A-7-5, A-7-6	0	0	100	100	98-100	84-100	50-63	22-34
	48-68	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	98-100	87-99	43-57	24-33
	68-80	Clay, silty clay, silty clay loam, clay loam	CL, CH	A-7-6	0	0	100	91-100	84-100	62-95	45-62	25-36
149A:												
Brenton---------	0-14	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	97-100	95-100	85-100	25-35	5-15
	14-33	Silty clay loam	CL	A-6, A-7-6	0	0	100	97-100	95-100	85-100	35-45	15-24
	33-45	Stratified loam to fine sandy loam	CL	A-6, A-4	0	0	95-100	90-100	75-95	50-70	25-38	9-19
	45-80	Stratified silt to fine sandy loam	CL-ML, CL	A-6, A-4	0	0	95-100	90-100	75-95	50-85	20-38	6-19
152A:												
Drummer---------	0-14	Silty clay loam	MH, CL	A-7-6, A-7-5	0	0	100	97-100	95-100	85-100	46-60	18-24
	14-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	38-49	19-25
	41-47	Loam	CL	A-6	0	0	95-100	90-100	75-95	50-80	29-38	13-19
	47-60	Stratified loam to sandy loam	SC, CL, CL-ML, SC-SM	A-6, A-2-6, A-4, A-2-4	0	0	95-100	80-100	55-95	30-65	20-31	6-13
164A:												
Stoy------------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	96-100	92-98	21-32	4-13
	9-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	96-100	92-98	21-32	4-13
	14-31	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	94-100	94-99	35-46	15-24
	31-60	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	92-100	35-46	15-25
164B:												
Stoy------------	0-6	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	96-100	92-98	21-32	4-13
	6-13	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	96-100	92-98	21-32	4-13
	13-32	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	94-100	94-99	35-46	15-24
	32-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	92-100	35-46	15-25

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
165A:												
Weir------------	0-8	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	93-100	84-99	24-37	6-16
	8-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	94-100	84-99	24-37	7-18
	18-46	Silty clay loam, silty clay	CL, CH	A-7-6, A-7-5	0	0	100	100	97-100	90-100	40-55	19-30
	46-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	97-100	90-100	30-40	15-21
	60-80	Silt loam, loam	CL	A-6, A-4	0	0	95-100	91-100	76-100	51-90	25-30	7-15
175D2:												
Lamont----------	0-8	Fine sandy loam, sandy loam, loam	SC-SM, SM, CL, ML, CL-ML	A-4, A-2-4	0	0	100	100	78-97	26-58	13-29	NP-10
	8-20	Fine sandy loam, sandy loam	SM, ML, CL-ML, SC-SM	A-4, A-2-4	0	0	100	100	84-98	27-65	13-23	NP-7
	20-40	Sandy loam, loam	SC, SC-SM, CL, ML	A-4, A-2-4	0	0	100	100	69-98	27-60	19-29	3-10
	40-80	Fine sand, loamy fine sand, loamy sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	56-94	6-21	9-17	NP-4
208A:												
Sexton----------	0-8	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-100	85-100	24-31	6-11
	8-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	23-31	6-13
	12-36	Silty clay loam, silty clay	MH, CH, CL	A-7-5, A-7-6	0	0	100	100	95-100	91-100	45-60	20-35
	36-45	Clay loam	CL	A-6	0	0	95-100	90-100	73-100	51-89	33-42	12-20
	45-78	Stratified sandy loam to loamy sand	SM, SC-SM	A-4, A-1-b, A-2-4	0	0	90-100	75-100	40-98	15-50	19-25	2-7
	78-80	Silt loam	CL	A-4, A-6	0	0	100	100	92-98	75-90	25-33	7-14

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
214B:												
Hosmer----------	0-8	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	96-100	93-100	21-38	5-17
	8-10	Silt loam	CL-ML, CL	A-4	0	0	100	100	96-100	93-100	22-30	4-10
	10-24	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	94-100	86-100	26-37	7-16
	24-53	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	94-100	82-100	27-39	8-17
	53-60	Silt loam, silty clay loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	83-100	25-35	6-15
218A:												
Newberry--------	0-9	Silt loam	CL-ML, CL, ML	A-4	0	0	100	100	95-100	90-100	21-29	3-9
	9-16	Silt loam	CL-ML, CL	A-4	0	0	100	100	95-100	90-100	21-29	4-11
	16-35	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	37-46	16-25
	35-48	Silty clay loam, clay loam, silt loam, loam	CL, ML	A-6, A-7-6	0	0	96-100	91-100	80-100	70-95	33-46	14-25
	48-80	Clay loam, silty clay loam	CL, CH	A-7-6	0	0	95-100	84-100	75-100	65-95	45-52	23-29
219A:												
Millbrook-------	0-7	Silt loam	CL-ML, CL, ML	A-4	0	0	100	100	94-100	88-99	21-29	3-9
	7-14	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-100	91-98	21-29	5-11
	14-35	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	97-100	90-100	29-46	11-25
	35-55	Clay loam, loam, sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	81-100	62-99	40-77	29-46	11-25
	55-80	Stratified sandy loam	SC, CL-ML, CL, SC-SM	A-4, A-6, A-2-6, A-2-4	0	0	100	82-100	51-99	28-64	19-29	3-12
287A:												
Chauncey--------	0-13	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	92-100	80-100	23-41	6-13
	13-28	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	92-100	81-99	21-33	6-13
	28-66	Silty clay loam, silty clay	CL, CH, MH	A-7-6, A-7-5	0	0	100	100	95-100	87-100	46-54	25-31
	66-80	Silt loam, loam	CL, ML	A-4, A-6	0	0	100	100	83-100	66-90	24-35	9-16

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
291B:												
Xenia-----------	0-4	Silt loam	CL, ML, CL-ML	A-4, A-7-6, A-6	0	0	100	97-100	95-100	85-100	27-42	9-18
	4-16	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	97-100	95-100	85-100	25-38	9-19
	16-37	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	19-25
	37-57	Clay loam, loam	CL	A-7-6, A-6	0	0	90-100	85-99	75-95	55-85	34-46	16-25
	57-80	Loam	CL, SC	A-4, A-6	0-1	0-3	85-100	75-98	65-95	40-80	22-35	7-17
315A:												
Channahon-------	0-10	Silt loam	CL-ML, ML, CL	A-4	0	0	85-100	75-100	68-100	50-96	19-29	NP-8
	10-18	Silty clay loam, clay loam	CL, SC	A-7-6, A-6	0	0	85-100	75-100	66-99	47-89	37-46	16-23
	18-80	Bedrock	---	---	---	---	---	---	---	---	---	---
434A:												
Ridgway---------	0-10	Silt loam	CL-ML, ML, CL	A-4	0	0	100	100	92-100	80-99	20-30	2-10
	10-30	Silty clay loam	CL	A-7-6, A-6	0	0	100	98-100	95-100	85-100	37-47	16-23
	30-39	Clay loam, loam, sandy clay loam	CL, ML, SC	A-6	0	0	97-100	85-98	65-95	45-80	35-40	12-20
	39-80	Stratified sandy loam to loamy sand	SM, SC-SM	A-4, A-1-b, A-2-4	0	0	94-98	85-95	45-93	15-50	19-25	2-7
434B:												
Ridgway---------	0-10	Silt loam	CL-ML, ML, CL	A-4	0	0	100	100	95-100	80-99	20-30	2-10
	10-30	Silty clay loam	CL	A-7-6, A-6	0	0	100	98-100	95-100	85-99	37-47	16-23
	30-39	Clay loam, loam, sandy clay loam	CL, SC	A-6	0	0	97-100	85-98	65-97	45-80	35-40	12-20
	39-80	Stratified loamy sand to sandy loam	SM, SC-SM	A-4, A-1-b, A-2-4	0	0	94-98	85-95	45-93	15-50	19-25	2-7
434D2:												
Ridgway---------	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	91-100	24-37	6-15
	10-30	Silty clay loam	CL	A-7-6, A-6	0	0	100	98-100	95-100	85-100	37-47	16-23
	30-39	Clay loam, loam, sandy clay loam	CL, ML, SC	A-6	0	0	97-100	85-98	65-95	45-80	35-40	12-20
	39-80	Stratified loamy sand to sandy loam	SM, SC-SM	A-4, A-1-b, A-2-4	0	0	94-98	85-95	45-93	15-50	19-25	2-7

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
453A:												
Muren-----------	0-9	Silt loam	CL-ML, CL, ML	A-4	0	0	100	100	96-100	89-99	19-27	2-9
	9-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	96-100	91-99	21-32	4-14
	12-40	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	98-100	92-99	37-46	16-24
	40-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	97-100	90-100	29-40	11-21
453B:												
Muren-----------	0-9	Silt loam	CL-ML, CL, ML	A-4	0	0	100	100	96-100	89-99	19-27	2-9
	9-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	96-100	91-99	21-32	4-14
	12-40	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	98-100	92-99	37-46	16-24
	40-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	97-100	90-100	29-40	11-21
618C2:												
Senachwine------	0-6	Silt loam	CL	A-6	0	0	95-100	95-100	90-98	77-90	30-41	13-19
	6-12	Silty clay loam, clay loam	CL	A-7-6, A-6	0	0	95-100	95-100	90-99	75-90	37-46	19-25
	12-27	Clay loam	CL	A-7-6, A-6	0	0	90-100	85-99	75-95	55-85	37-46	19-25
	27-80	Loam	CL, SC	A-4, A-6	0-1	0-3	85-100	75-98	60-95	40-80	22-35	7-17
618C3:												
Senachwine------	0-4	Clay loam	CL, ML	A-6	0	0	100	90-100	83-95	59-85	30-40	15-20
	4-33	Clay loam	CL, ML	A-6	0	0	90-100	85-99	75-95	55-85	33-39	12-18
	33-60	Loam	CL-ML, CL, ML, SC-SM	A-4	0-1	0-3	90-100	85-99	73-95	45-75	22-28	4-10
618D2:												
Senachwine------	0-6	Silt loam	CL	A-6	0	0	95-100	95-100	90-100	75-90	30-41	13-19
	6-15	Silty clay loam, clay loam	CL	A-6, A-7-6	0	0	95-100	95-100	90-99	75-90	37-46	19-25
	15-28	Clay loam	CL	A-6, A-7-6	0	0	90-100	85-99	75-95	55-85	37-46	19-25
	28-34	Loam, clay loam	CL	A-6	0	0-2	90-100	85-99	70-95	50-75	29-38	13-19
	34-80	Loam	CL, SC	A-4, A-6	0-1	0-3	85-100	75-98	60-95	40-80	22-35	7-17
618D3:												
Senachwine------	0-3	Clay loam	CL, ML	A-6	0	0	100	90-100	83-95	59-85	30-40	15-20
	3-25	Clay loam	CL, ML	A-6	0	0	90-100	85-99	75-95	55-85	33-39	12-18
	25-60	Loam	CL-ML, CL, ML, SC-SM	A-4	0-1	0-3	90-100	85-99	73-95	45-75	22-28	4-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
802D:												
Orthents, loamy	0-10	Clay loam	CL	A-6, A-7-6	0	0-5	95-100	90-100	85-100	50-80	38-49	19-25
	10-60	Clay loam, silty clay loam, loam	CL	A-6, A-7-6	0-1	0-5	95-100	85-100	85-100	50-85	32-42	15-21
830B. Landfills												
842G:												
Hickory---------	0-5	Loam	CL-ML	A-4	0	0	100	85-100	65-100	43-82	15-25	4-7
	5-8	Loam	CL-ML	A-4	0	0	100	85-100	65-100	43-82	15-25	4-7
	8-52	Clay loam, loam	CL, SC	A-6	0	0-1	90-100	75-98	60-95	39-80	32-39	11-18
	52-60	Loam	CL, SC, CL-ML, SC-SM	A-6, A-4	0	0-1	90-100	75-95	64-95	40-74	22-33	4-13
Rock outcrop.												
864. Pits, quarries												
865. Pits, gravel												
927C2:												
Blair-----------	0-5	Silt loam	CL, CL-ML	A-4	0	0	100	98-100	93-100	84-100	21-29	4-10
	5-33	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	92-100	83-100	37-46	16-24
	33-49	Silty clay loam, silt loam, clay loam, loam	CL	A-6, A-7-6	0	0	95-100	85-100	78-99	61-90	29-46	11-22
	49-60	Clay loam, silt loam, silty clay loam, loam	CL	A-6, A-7-6, A-7-5	0	0	95-100	80-100	72-99	57-87	29-46	11-22
Atlas-----------	0-4	Silt loam	CL, ML	A-4, A-6	0	0	100	90-100	83-100	65-98	24-37	7-18
	4-34	Clay loam, silty clay loam, silty clay, clay	CL	A-7-6	0	0	95-100	90-100	80-95	61-90	42-50	20-28
	34-68	Clay loam, loam	CL	A-6	0	0	95-100	80-100	70-95	50-85	30-40	10-20

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
927C3:												
Blair-----------	0-5	Silty clay loam	CL	A-6	0	0	100	90-100	83-100	73-95	37-40	16-20
	5-33	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	92-100	83-100	37-46	16-24
	33-49	Silty clay loam, silt loam, clay loam, loam	CL	A-6, A-7-6	0	0	95-100	85-100	78-99	61-90	29-46	11-22
	49-60	Clay loam, silt loam, silty clay loam, loam	CL	A-6, A-7-6, A-7-5	0	0	95-100	80-100	72-99	57-87	29-46	11-22
Atlas-----------	0-2	Silty clay loam	CL	A-6	0	0	100	90-100	83-100	73-95	37-40	16-20
	2-24	Clay loam, silty clay loam, silty clay, clay	CL	A-7-6	0	0	95-100	90-100	80-95	61-88	42-50	20-28
	24-68	Clay loam, silty clay loam, silty clay, clay	CL	A-7-6	0	0	95-100	90-100	80-95	61-90	42-50	20-28
946D2:												
Hickory---------	0-10	Silt loam	CL, ML, CL-ML	A-6, A-4	0	0	90-100	80-100	73-100	57-93	21-35	5-15
	10-45	Clay loam, loam	CL, SC	A-6	0	0-1	90-100	75-99	60-95	40-80	32-39	11-18
	45-60	Clay loam, loam	CL, SC, CL-ML, SC-SM	A-6, A-4	0	0-1	90-100	75-95	65-94	40-74	22-34	4-14
Atlas-----------	0-6	Silt loam	CL, ML	A-4, A-6	0	0	100	90-100	83-100	65-98	24-37	7-18
	6-50	Clay loam, silty clay loam, silty clay, clay	CL	A-7-6	0	0	95-100	90-100	80-98	60-90	42-50	20-28
	50-65	Clay loam, loam	CL	A-6	0	0	95-100	80-100	73-98	50-85	30-40	10-20
946D3:												
Hickory---------	0-10	Clay loam	CL, ML	A-6	0	0	90-100	75-100	69-95	50-85	30-40	15-20
	10-45	Clay loam, loam	CL, SC	A-6	0	0-2	90-100	75-99	60-95	40-80	32-39	11-18
	45-60	Clay loam, loam	CL, SC, CL-ML, SC-SM	A-6, A-4	0	0-2	90-100	75-95	65-94	40-74	22-34	4-14
Atlas-----------	0-6	Clay loam	CL	A-6	0	0	100	90-100	83-95	59-85	30-40	15-20
	6-50	Clay loam, silty clay loam, silty clay, clay	CL	A-7-6	0	0	95-100	90-100	80-95	61-90	42-50	20-28
	50-65	Clay loam, loam	CL	A-6	0	0	95-100	80-100	70-95	50-85	30-40	10-20

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
991A:												
Cisne-----------	0-8	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	23-38	6-13
	8-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	21-32	6-13
	17-37	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	37-60	Silty clay loam, silt loam, clay loam, loam	CL, ML	A-6, A-7-6	0	0	95-100	84-100	75-99	60-90	31-46	13-25
	60-80	Silt loam, loam, clay loam, silty clay loam	CL	A-7-6, A-6	0	0	95-100	82-97	75-97	55-90	29-44	13-25
Huey------------	0-8	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	22-36	6-13
	8-10	Silt, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	21-32	6-13
	10-15	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	35-46	17-25
	15-49	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-46	17-25
	49-65	Silt loam, loam, silty clay loam	CL	A-7-6, A-6	0	0	95-100	82-97	75-97	55-90	29-44	13-25
3028A:												
Jules-----------	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	86-100	61-93	19-35	2-14
	10-54	Stratified silt loam to very fine sand	CL-ML, CL, ML	A-4	0	0	100	100	92-100	70-95	13-29	NP-11
	54-80	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	90-100	81-100	37-46	16-24
3071A:												
Darwin----------	0-14	Silty clay	CH, MH	A-7-6	0	0	100	100	96-100	90-100	51-63	25-34
	14-46	Silty clay, clay	CH, MH	A-7-5, A-7-6	0	0	100	100	95-100	88-100	51-74	26-43
	46-68	Silty clay loam, silty clay	CH, CL, MH	A-7-6, A-7-5	0	0	100	100	95-100	86-100	45-74	23-44

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3226A:												
Wirt------------	0-7	Loam	CL-ML, CL, ML	A-4	0	0	99-100	95-100	75-100	50-80	19-29	3-11
	7-55	Silt loam, loam	CL, ML	A-6, A-4	0	0	99-100	95-100	85-100	61-85	27-37	9-18
	55-80	Stratified loamy sand to sandy loam	SM, SC-SM	A-4, A-1-b, A-2-4	0	0	80-100	75-95	40-93	12-40	19-25	2-7
3284A:												
Tice------------	0-19	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	84-99	35-46	12-20
	19-60	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	94-100	88-99	33-44	14-22
3288A:												
Petrolia--------	0-14	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	89-100	80-100	37-44	16-22
	14-60	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	92-100	81-100	37-46	16-24
3302A:												
Ambraw----------	0-14	Clay loam	CL, ML	A-6, A-7-6	0	0	100	89-100	80-99	55-89	35-46	12-20
	14-37	Clay loam, loam	CL	A-7-6, A-6	0	0	100	89-100	80-99	55-80	35-45	14-25
	37-80	Stratified sandy clay loam to sandy loam to loam to clay loam	CL, ML, SC	A-6	0	0	100	89-100	75-98	40-69	27-40	9-20
3424A:												
Shoals----------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	99-100	95-100	86-100	67-100	24-35	6-15
	8-60	Stratified loam to silt loam	CL, ML	A-6, A-4	0	0	99-100	95-100	85-100	61-85	27-37	9-18
3431A:												
Genesee---------	0-9	Silt loam	CL, ML	A-4, A-6	0	0	99-100	95-100	87-100	67-100	24-35	7-15
	9-34	Loam, silt loam	CL	A-4, A-6	0	0	90-100	90-100	80-100	65-89	25-35	7-14
	34-72	Stratified loam to fine sandy loam to silt loam, loam, fine sandy loam	SC-SM, SM, CL-ML, SC, CL, ML	A-4	0	0	90-100	85-100	71-100	35-79	10-25	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
3450A:												
Brouillett------	0-11	Silt loam	CL, ML	A-4, A-6	0	0	90-100	90-100	80-100	65-89	25-35	7-14
	11-26	Silt loam, loam	CL	A-4, A-6	0	0	90-100	90-100	80-100	65-89	25-35	7-14
	26-42	Silt loam, loam	CL	A-4, A-6	0	0	90-100	90-100	80-100	65-89	25-35	7-16
	42-60	Stratified sandy loam to silt loam	CL, SC, CL-ML, SC-SM, ML, SM	A-4, A-6	0	0	85-100	85-100	56-100	43-89	10-35	4-12
3597A:												
Armiesburg------	0-14	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	84-99	37-46	16-20
	14-80	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	96-100	84-99	37-47	16-23
3665A:												
Stonelick-------	0-14	Loam	CL-ML, CL, ML	A-4, A-6	0	0	99-100	95-100	72-100	48-82	19-29	3-11
	14-60	Stratified loam to fine sandy loam to loamy fine sand to silt loam	CL-ML, SM, ML, SC-SM	A-4, A-2-4	0	0	95-100	84-100	58-100	25-80	13-23	NP-7
7098B:												
Ade-------------	0-12	Loamy sand	SM	A-2-4	0	0	100	100	60-98	15-30	15-20	NP-4
	12-42	Sand, loamy sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	52-90	5-15	7-15	NP-1
	42-80	Stratified sand to loamy sand	SP-SM, SM	A-2-4, A-3	0	0	100	100	52-90	5-15	7-15	NP-1
7131B:												
Alvin-----------	0-8	Fine sandy loam	SC-SM, CL, ML, SM, CL-ML	A-4	0	0	100	100	81-96	35-55	15-25	3-8
	8-11	Fine sandy loam, sandy loam	SC-SM, CL, ML, SM, CL-ML	A-4	0	0	100	100	81-96	35-55	15-25	NP-8
	11-25	Fine sandy loam, sandy loam, loam	SC, CL	A-4	0	0	100	95-100	77-96	35-64	15-30	7-11
	25-80	Stratified loamy fine sand to fine sandy loam, fine sandy loam, loamy fine sand	SM	A-2-4, A-4	0	0	92-100	92-100	77-96	14-48	11-17	NP-4

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
7155A:												
Stockland-------	0-8	Gravelly sandy loam	SM, SC, SC-SM	A-1-b, A-2-4, A-4	0	0	70-100	52-75	30-65	15-40	14-29	NP-8
	8-14	Gravelly coarse sandy loam, coarse sandy loam, gravelly sandy loam, sandy loam	SW-SM, SM, SC, SC-SM, SW-SC	A-1-b, A-2-4, A-4	0	0-2	70-100	51-85	15-65	10-40	19-29	3-10
	14-44	Very gravelly coarse sandy loam, very gravelly sandy loam	SW-SC, SC-SM, SC	A-2-4, A-1-b, A-1-a	0-2	0-8	65-75	35-50	10-38	7-25	19-29	4-11
	44-60	Very gravelly loamy coarse sand	SP-SM, SC-SM, SM	A-1-a, A-1-b	0-8	0-8	65-75	35-50	2-40	2-15	10-20	NP-6
	60-80	Very gravelly coarse sand	SP-SM, SP, SW-SM	A-1-a, A-1-b	0-8	0-15	65-75	35-50	1-39	0-10	9-12	NP
7155B:												
Stockland-------	0-16	Gravelly sandy loam	SM, SC, SC-SM	A-1-b, A-2-4, A-4	0	0	70-100	51-75	30-63	15-40	19-29	1-8
	16-31	Very gravelly sandy loam	SC, SC-SM, SW-SC, SW-SM, SM	A-1-a, A-1-b, A-2-4	0-3	0-8	65-75	35-50	20-45	6-27	19-28	3-10
	31-42	Very gravelly loamy sand	SM, SC, SW-SM, SP-SM, SW-SC, SC-SM	A-2-4, A-1-b, A-1-a	0-8	0-8	65-75	35-50	20-45	5-15	16-23	2-8
	42-60	Very gravelly sand	SP, SP-SM	A-1-a, A-1-b	0-8	0-8	65-75	35-50	15-44	1-10	8-15	NP-2
7155C:												
Stockland-------	0-14	Gravelly sandy loam	SM, SC, SC-SM	A-1-b, A-2-4, A-4	0	0	70-100	51-75	30-63	15-40	19-29	1-8
	14-62	Very gravelly sandy loam	SC, SC-SM, SW-SC, SW-SM, SM	A-1-a, A-1-b, A-2-4	0-8	0-8	65-75	35-50	20-45	6-27	19-28	3-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
7175B:												
Lamont----------	0-8	Fine sandy loam	SC-SM, SM, CL, ML	A-4, A-2-4	0	0	100	100	78-97	26-58	13-29	NP-10
	8-20	Fine sandy loam, sandy loam	SM, ML, CL-ML	A-4, A-2-4	0	0	100	100	84-98	27-65	13-23	NP-7
	20-40	Sandy loam, loam	SC, SC-SM, CL, ML	A-4, A-2-4	0	0	100	100	69-98	27-60	19-29	3-10
	40-80	Fine sand, loamy fine sand, loamy sand, sand	SM	A-2-4, A-3	0	0	100	100	56-96	6-21	9-17	NP-4
7266B:												
Disco-----------	0-24	Sandy loam	SM, ML	A-2-4, A-4	0	0	100	100	72-95	27-54	13-23	NP-3
	24-36	Sandy loam, fine sandy loam	SM	A-2-4, A-4	0	0	100	95-100	71-95	25-50	13-23	NP-5
	36-80	Sand, loamy sand	SP-SM, SM	A-3, A-2-4	0	0	100	95-100	53-91	5-22	9-17	NP-4
7286A:												
Carmi-----------	0-10	Sandy loam	SC-SM, SM, CL, ML, CL-ML	A-4, A-2-4	0	0	95-100	75-100	45-95	25-55	20-30	2-10
	10-26	Sandy loam	SC-SM, SC, SM, CL-ML, CL, ML	A-4, A-2-4	0	0	95-100	75-100	45-95	25-55	20-30	2-10
	26-37	Gravelly coarse sandy loam, gravelly sandy clay loam	SC, SC-SM, SM, SP-SM, SP-SC	A-2-4, A-2-6, A-1-b	0	0	90-98	50-75	20-58	10-32	20-30	2-13
	37-57	Stratified sandy loam to coarse sandy loam	SC-SM, SC, SM	A-2-4, A-1-b, A-4	0	0	95-100	75-100	39-95	15-61	20-30	3-11
	57-82	Loamy coarse sand, stratified loamy sand to coarse sand	SM, SP-SM, SC-SM, SP-SC	A-2-4, A-1-b	0	0	90-98	75-90	11-70	5-25	18-22	1-6
	82-93	Stratified loamy coarse sand to very gravelly coarse sand	SW-SM, SP	A-2-4, A-1-b	0-1	0-4	80-95	50-80	10-55	3-12	15-20	NP-4

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
7434B:												
Ridgway---------	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	75-98	22-36	6-13
	7-29	Silty clay loam	ML, CL	A-6, A-7-6	0	0	100	91-100	85-100	70-98	31-46	13-25
	29-52	Loam, sandy loam, clay loam, sandy clay loam, fine sandy loam	ML, SC, CL	A-2-4, A-6, A-2-6, A-4	0	0	96-100	78-100	60-99	30-75	25-40	9-21
	52-60	Stratified fine sandy loam to loamy fine sand	SM, SC-SM, SC, SP-SM, SP-SC	A-4, A-1-b, A-2-4	0	0	96-100	78-100	45-99	10-50	16-27	2-10
7571A:												
Whitaker--------	0-10	Loam	CL-ML	A-4	0	0	100	92-100	71-100	50-80	15-25	4-7
	10-14	Loam	CL-ML	A-4	0	0	100	92-100	71-100	50-80	15-25	4-7
	14-34	Clay loam, loam, sandy clay loam	CL, SC	A-6	0	0	97-100	92-100	71-99	46-80	35-40	12-20
	34-60	Stratified loamy sand to sandy loam to loam	SM, SC-SM	A-1-b, A-4, A-2-4	0	0	94-98	82-98	45-96	15-50	19-25	2-7
8431A:												
Genesee---------	0-7	Sandy loam	SM, ML	A-2-4, A-4	0	0	90-100	90-100	65-95	25-54	13-23	NP-4
	7-60	Loam, silt loam	CL	A-4, A-6	0	0	90-100	90-100	80-100	65-89	25-35	7-14
	60-80	Stratified silt loam to sandy loam	CL, SC, CL-ML, SC-SM	A-4, A-6	0	0	85-100	85-100	55-100	45-89	10-35	4-12
8665A:												
Stonelick-------	0-9	Fine sandy loam	SC-SM, CL, ML, SM, CL-ML	A-4	0	0	99-100	95-100	77-96	35-55	15-25	3-8
	9-60	Stratified loamy fine sand to fine sandy loam	CL-ML, SM, ML, SC-SM	A-4, A-2-4	0	0	95-100	84-100	56-100	25-80	13-23	NP-7

Table 19.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
2A:														
Cisne---------------	0-8	1-10	70-83	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	3	5	56
	8-17	0-10	70-87	10-20	1.40-1.60	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.64	.64			
	17-37	0-10	50-65	35-45	1.30-1.50	0.02-0.2	0.12-0.18	6.0-8.9	0.2-0.5	.43	.43			
	37-60	15-30	38-61	20-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.5	.43	.43			
	60-80	15-35	31-62	20-35	1.50-1.70	0.2-0.6	0.13-0.19	0.0-2.9	0.0-0.3	.43	.43			
3A:														
Hoyleton------------	0-8	1-16	57-87	12-27	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	8-11	1-16	57-81	18-27	1.30-1.50	0.2-0.6	0.16-0.22	0.0-2.9	0.3-0.8	.55	.55			
	11-39	1-10	45-64	35-45	1.30-1.50	0.06-0.6	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	39-80	6-40	25-75	19-35	1.40-1.60	0.2-0.6	0.15-0.18	0.0-5.9	0.0-0.3	.43	.49			
3B:														
Hoyleton------------	0-8	1-16	57-87	12-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	8-15	1-16	57-81	18-27	1.30-1.50	0.2-0.6	0.17-0.21	0.0-2.9	0.3-0.8	.55	.55			
	15-34	1-10	45-64	35-45	1.30-1.50	0.06-0.6	0.12-0.16	6.0-8.9	0.2-0.5	.37	.37			
	34-60	6-40	25-75	19-35	1.40-1.60	0.2-0.6	0.15-0.18	0.0-5.9	0.0-0.3	.43	.49			
8F:														
Hickory-------------	0-4	10-30	50-78	12-25	1.30-1.50	0.6-2	0.17-0.23	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.14-0.20	0.0-2.9	0.1-0.5	.43	.49			
	12-46	15-45	30-50	24-35	1.45-1.65	0.6-2	0.10-0.16	3.0-5.9	0.1-0.5	.28	.32			
	46-58	25-49	28-50	15-32	1.50-1.70	0.2-2	0.10-0.16	0.0-2.9	0.1-0.5	.32	.37			
	58-80	30-55	25-50	15-30	1.50-1.75	0.2-0.6	0.09-0.15	0.0-2.9	0.1-0.5	.37	.43			
8G:														
Hickory-------------	0-5	30-50	35-50	12-20	1.25-1.45	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	5-8	30-50	35-50	12-20	1.35-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-1.5	.37	.43			
	8-52	25-50	25-45	25-35	1.50-1.70	0.6-2	0.09-0.15	3.0-5.9	0.1-0.5	.24	.32			
	52-60	30-50	30-45	10-27	1.60-1.80	0.2-0.6	0.08-0.14	0.0-2.9	0.0-0.3	.32	.37			
12A:														
Wynoose-------------	0-7	0-15	68-80	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	3	5	56
	7-20	0-15	67-80	10-20	1.30-1.50	0.2-0.6	0.19-0.25	0.0-2.9	0.3-0.8	.64	.64			
	20-36	0-10	51-64	35-42	1.30-1.50	0.02-0.2	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	36-66	15-30	39-59	25-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.3	.43	.43			
	66-80	15-36	39-59	25-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.3	.43	.43			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
13A:														
Bluford	0-7	5-12	70-79	10-18	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	7-20	5-10	70-80	15-25	1.35-1.55	0.2-0.6	0.19-0.25	0.0-2.9	0.2-0.8	.55	.55			
	20-35	0-8	50-64	35-45	1.30-1.50	0.06-0.6	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	35-60	15-30	40-64	20-35	1.50-1.70	0.06-0.2	0.07-0.13	3.0-5.9	0.0-0.3	.43	.49			
13B2:														
Bluford	0-9	2-14	70-82	15-22	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.5-2.0	.37	.37	4	6	48
	9-37	1-13	50-62	35-42	1.30-1.50	0.06-0.6	0.11-0.17	6.0-9.0	0.2-0.5	.32	.32			
	37-60	15-30	43-64	20-30	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.3	.43	.43			
14B:														
Ava	0-6	2-8	73-83	12-20	1.35-1.55	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	6-14	2-8	73-83	12-20	1.35-1.55	0.2-0.6	0.19-0.25	0.0-2.9	0.3-0.8	.64	.64			
	14-34	0-8	58-74	25-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.49	.49			
	34-50	16-30	42-61	20-30	1.55-1.75	0.02-0.06	0.02-0.08	3.0-5.9	0.0-0.3	.49	.49			
	50-60	16-30	42-61	20-30	1.55-1.75	0.06-0.6	0.10-0.16	0.0-2.9	0.0-0.3	.49	.49			
14C2:														
Ava	0-7	2-14	70-82	15-22	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.5-2.0	.37	.37	4	6	48
	7-31	0-8	58-74	25-35	1.35-1.55	0.2-0.6	0.16-0.22	3.0-5.9	0.3-0.8	.43	.43			
	31-50	16-30	42-61	20-30	1.55-1.75	0.02-0.06	0.02-0.08	3.0-5.9	0.2-0.5	.43	.43			
	50-60	16-25	45-61	20-30	1.55-1.75	0.06-0.6	0.12-0.18	0.0-2.9	0.0-0.3	.43	.43			
31A:														
Pierron	0-8	1-7	71-85	12-25	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	8-20	1-7	71-88	10-22	1.30-1.50	0.06-0.2	0.15-0.20	0.0-2.9	0.1-0.5	.55	.55			
	20-36	1-7	48-64	35-45	1.35-1.60	0.01-0.06	0.11-0.18	6.0-8.9	0.1-0.5	.37	.37			
	36-66	1-7	54-70	27-42	1.35-1.60	0.01-0.06	0.12-0.18	3.0-5.9	0.1-0.5	.37	.37			
	66-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
48A:														
Ebbert	0-13	1-10	67-82	15-25	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	13-22	1-13	65-80	15-25	1.35-1.55	0.2-0.6	0.16-0.22	0.0-2.9	1.0-3.0	.55	.55			
	22-48	1-12	54-71	27-35	1.35-1.55	0.06-0.2	0.13-0.19	3.0-5.9	0.5-1.5	.43	.43			
	48-60	10-25	50-68	20-30	1.45-1.65	0.2-0.6	0.15-0.20	0.0-5.9	0.0-0.5	.43	.43			
50A:														
Virden	0-11	1-10	65-77	20-27	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	3.0-5.0	.32	.32	5	6	48
	11-36	1-5	53-64	35-42	1.30-1.50	0.2-0.6	0.12-0.16	6.0-8.9	0.5-2.0	.37	.37			
	36-60	2-7	63-78	20-30	1.35-1.55	0.2-0.6	0.18-0.22	0.0-2.9	0.1-0.3	.49	.49			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
79B:														
Menfro--------------	0-10	1-10	63-87	12-27	1.35-1.55	0.6-2	0.20-0.24	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	10-39	0-10	55-73	27-35	1.35-1.55	0.6-2	0.14-0.18	3.0-5.9	0.2-0.5	.43	.43			
	39-70	0-10	60-80	20-30	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	0.1-0.3	.49	.49			
	70-80	1-10	62-84	15-28	1.40-1.60	0.2-0.6	0.19-0.23	0.0-2.9	0.0-0.3	.55	.55			
79D2:														
Menfro--------------	0-8	1-10	63-87	12-27	1.35-1.55	0.6-2	0.20-0.24	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	8-35	0-10	55-73	27-35	1.35-1.55	0.6-2	0.14-0.18	3.0-5.9	0.2-0.5	.43	.43			
	35-49	0-10	60-80	20-30	1.35-1.55	0.6-2	0.17-0.21	3.0-5.9	0.1-0.3	.43	.43			
	49-75	1-10	62-84	15-28	1.40-1.60	0.2-0.6	0.19-0.23	0.0-2.9	0.0-0.3	.55	.55			
109A:														
Racoon--------------	0-6	1-14	62-84	14-25	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	6-30	1-14	62-83	15-25	1.35-1.55	0.2-0.6	0.17-0.23	0.0-2.9	0.3-0.8	.55	.55			
	30-59	1-15	52-71	27-35	1.35-1.55	0.06-0.2	0.13-0.19	3.0-5.9	0.2-0.5	.49	.49			
	59-73	10-35	40-71	18-27	1.50-1.70	0.2-0.6	0.13-0.19	0.0-2.9	0.0-0.2	.55	.55			
112A:														
Cowden--------------	0-8	1-10	70-83	10-20	1.30-1.50	0.6-2	0.17-0.23	0.0-2.9	1.5-3.5	.37	.37	3	5	56
	8-19	0-15	59-79	18-27	1.35-1.55	0.2-0.6	0.18-0.22	0.0-2.9	0.3-1.0	.55	.55			
	19-50	0-7	53-64	35-42	1.30-1.50	0.06-0.2	0.14-0.18	6.0-8.9	0.2-0.5	.37	.37			
	50-80	0-7	64-77	20-30	1.35-1.55	0.2-0.6	0.20-0.24	0.0-2.9	0.0-0.3	.49	.49			
113A:														
Oconee--------------	0-9	1-10	70-83	10-20	1.30-1.50	0.6-2	0.19-0.24	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	9-12	1-7	66-80	18-27	1.30-1.45	0.2-0.6	0.20-0.22	3.0-5.9	0.3-0.8	.55	.55			
	12-33	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	33-56	1-7	58-78	20-35	1.40-1.60	0.2-0.6	0.16-0.21	3.0-5.9	0.1-0.5	.43	.43			
	56-74	5-30	45-70	20-30	1.40-1.60	0.2-2	0.17-0.22	0.0-2.9	0.1-0.3	.49	.49			
113B:														
Oconee--------------	0-8	1-7	73-85	10-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	8-16	1-7	66-80	18-27	1.30-1.45	0.2-0.6	0.20-0.22	0.0-2.9	0.3-0.8	.49	.49			
	16-47	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	47-65	1-7	58-78	20-35	1.40-1.60	0.2-0.6	0.16-0.21	3.0-5.9	0.1-0.3	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-2	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
116A:														
Whitson-------------	0-10	2-20	53-83	15-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	10-23	2-18	55-83	15-27	1.40-1.60	0.2-0.6	0.20-0.25	0.0-2.9	0.3-0.8	.55	.55			
	23-30	1-13	47-69	30-40	1.30-1.50	0.06-0.2	0.12-0.16	6.0-8.9	0.2-0.5	.37	.37			
	30-52	1-13	57-74	25-30	1.30-1.50	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.49	.49			
	52-62	1-15	58-84	15-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	0.1-0.3	.55	.55			
	62-80	15-45	33-70	15-22	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.3	.37	.43			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
122B:														
Colp----------------	0-8	2-7	66-83	15-27	1.40-1.60	0.6-2	0.16-0.20	0.0-2.9	1.0-2.5	.55	.55	5	6	48
	8-11	2-7	66-83	15-27	1.40-1.60	0.2-0.6	0.17-0.21	0.0-2.9	0.3-0.8	.49	.49			
	11-19	3-15	50-68	27-35	1.45-1.65	0.2-0.6	0.13-0.17	3.0-5.9	0.2-0.8	.37	.37			
	19-54	3-15	40-62	35-45	1.25-1.45	0.06-0.2	0.12-0.16	6.0-8.9	0.2-0.5	.32	.32			
	54-60	3-20	50-65	25-45	1.60-1.75	0.02-0.06	0.10-0.14	3.0-5.9	0.1-0.3	.43	.43			
122D2:														
Colp----------------	0-8	2-7	66-83	15-27	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	0.5-2.0	.55	.55	5	6	48
	8-11	2-7	66-83	15-27	1.40-1.60	0.2-0.6	0.17-0.20	0.0-2.9	0.3-0.8	.49	.49			
	11-19	3-15	50-68	27-35	1.45-1.65	0.2-0.6	0.13-0.17	3.0-5.9	0.2-0.8	.37	.37			
	19-49	3-15	40-62	35-45	1.25-1.45	0.06-0.2	0.13-0.17	6.0-8.9	0.2-0.5	.32	.32			
	49-60	3-20	50-65	25-45	1.60-1.75	0.02-0.06	0.10-0.14	3.0-5.9	0.1-0.3	.43	.43			
131B:														
Alvin---------------	0-8	55-70	15-35	10-15	1.45-1.65	2-6	0.11-0.15	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	8-11	55-70	15-35	10-15	1.45-1.65	2-6	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			
	11-25	45-70	12-40	15-18	1.40-1.65	2-6	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			
	25-80	65-95	0-32	3-10	1.45-1.65	2-6	0.05-0.09	0.0-2.9	0.0-0.3	.20	.20			
131C2:														
Alvin---------------	0-10	55-70	15-35	10-15	1.45-1.65	2-6	0.11-0.15	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	10-30	45-70	12-40	15-18	1.40-1.65	2-6	0.11-0.15	0.0-2.9	0.2-0.5	.24	.24			
	30-60	65-95	0-32	3-10	1.45-1.65	2-6	0.05-0.09	0.0-2.9	0.0-0.3	.20	.20			
132A:														
Starks--------------	0-8	2-15	58-82	15-27	1.25-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	8-13	2-15	58-82	15-27	1.35-1.55	0.2-0.6	0.16-0.22	0.0-2.9	0.3-0.8	.49	.49			
	13-36	2-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.37	.37			
	36-44	45-65	15-35	10-30	1.45-1.65	0.6-2	0.13-0.17	0.0-5.9	0.2-0.5	.24	.24			
	44-60	45-70	10-35	5-20	1.50-1.70	0.6-2	0.08-0.15	0.0-2.9	0.1-0.3	.28	.28			
134A:														
Camden--------------	0-8	2-7	66-83	15-27	1.35-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	8-13	2-7	66-83	15-27	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	0.3-0.8	.49	.49			
	13-30	3-15	50-70	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-0.5	.37	.37			
	30-38	3-15	58-70	22-27	1.40-1.60	0.6-2	0.15-0.19	0.0-2.9	0.1-0.5	.43	.49			
	38-56	25-54	28-50	18-30	1.45-1.65	0.6-2	0.11-0.18	0.0-2.9	0.0-0.3	.28	.32			
	56-60	45-65	25-45	10-22	1.50-1.70	0.6-6	0.08-0.15	0.0-2.9	0.0-0.3	.28	.32			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
134B:														
Camden--------------	0-9	2-7	66-83	15-27	1.35-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	9-14	2-7	66-83	15-27	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	0.3-0.8	.55	.55			
	14-22	2-7	66-76	22-27	1.30-1.50	0.6-2	0.18-0.23	0.0-2.9	0.1-0.5	.43	.43			
	22-35	3-15	50-70	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	35-52	25-54	28-50	18-30	1.45-1.65	0.6-2	0.11-0.18	0.0-2.9	0.1-0.5	.32	.32			
	52-80	45-65	25-45	10-22	1.50-1.70	0.6-6	0.08-0.15	0.0-2.9	0.1-0.3	.28	.28			
134C2:														
Camden--------------	0-7	2-7	66-83	15-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	7-34	2-7	58-71	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	34-43	30-50	28-48	22-30	1.45-1.65	0.6-2	0.11-0.14	3.0-5.9	0.0-0.5	.32	.32			
	43-80	65-80	5-25	5-25	1.45-1.65	2-6	0.06-0.10	0.0-2.9	0.0-0.3	.28	.28			
136A:														
Brooklyn------------	0-9	2-14	65-82	15-22	1.30-1.50	0.6-2	0.20-0.26	0.0-2.9	1.5-3.5	.37	.37	3	5	56
	9-14	2-15	71-82	14-22	1.35-1.55	0.2-0.6	0.20-0.26	0.0-2.9	0.2-0.8	.64	.64			
	14-40	0-10	47-63	35-45	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.1-0.5	.37	.37			
	40-62	20-44	23-52	27-40	1.50-1.70	0.2-0.6	0.09-0.15	3.0-5.9	0.1-0.5	.28	.32			
	62-73	29-61	28-44	10-27	1.55-1.75	0.6-2	0.11-0.15	0.0-2.9	0.1-0.3	.37	.43			
	73-80	26-50	35-50	12-25	1.65-1.85	0.2-0.6	0.08-0.14	0.0-2.9	0.1-0.3	.37	.43			
138A:														
Shiloh--------------	0-19	1-17	47-64	35-40	1.25-1.45	0.2-0.6	0.12-0.18	6.0-8.9	3.0-5.0	.24	.24	5	4	86
	19-48	1-17	40-64	35-45	1.30-1.50	0.2-0.6	0.11-0.17	6.0-8.9	1.0-3.5	.32	.32			
	48-68	1-15	43-66	33-45	1.35-1.55	0.06-0.2	0.11-0.18	6.0-8.9	0.2-1.0	.37	.37			
	68-80	10-33	30-53	35-50	1.40-1.60	0.06-0.2	0.10-0.16	6.0-8.9	0.2-1.0	.28	.28			
149A:														
Brenton-------------	0-14	2-15	58-82	15-27	1.25-1.45	0.6-2	0.16-0.22	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	14-33	2-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-1.5	.37	.37			
	33-45	40-55	30-45	15-27	1.50-1.70	0.6-2	0.13-0.17	0.0-2.9	0.2-0.5	.32	.32			
	45-80	15-50	28-65	10-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
152A:														
Drummer-------------	0-14	3-15	50-70	27-35	1.20-1.40	0.6-2	0.15-0.21	3.0-5.9	4.5-7.0	.24	.24	5	6	48
	14-41	3-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.8-2.0	.37	.37			
	41-47	25-45	28-50	20-27	1.45-1.65	0.6-2	0.10-0.16	0.0-2.9	0.2-0.5	.32	.32			
	47-60	45-65	25-45	10-20	1.55-1.75	0.6-2	0.08-0.14	0.0-2.9	0.1-0.3	.24	.24			
164A:														
Stoy----------------	0-9	1-8	71-80	12-23	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	9-14	1-8	71-80	12-23	1.30-1.50	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.55	.55			
	14-31	1-8	58-70	27-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.43	.43			
	31-60	1-9	57-72	20-35	1.45-1.65	0.06-0.2	0.07-0.13	3.0-5.9	0.0-0.3	.49	.49			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
164B:														
Stoy	0-6	1-8	71-80	12-23	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	6-13	1-8	71-80	12-23	1.30-1.50	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.55	.55			
	13-32	1-8	58-70	27-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.43	.43			
	32-65	1-9	57-72	20-35	1.45-1.65	0.06-0.2	0.07-0.13	3.0-5.9	0.0-0.3	.49	.49			
165A:														
Weir	0-8	2-20	53-83	15-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	8-18	2-18	55-83	15-27	1.40-1.60	0.2-0.6	0.20-0.25	0.0-2.9	0.3-0.8	.49	.49			
	18-46	1-13	42-64	35-45	1.30-1.50	0.02-0.2	0.12-0.16	6.0-8.9	0.2-0.5	.37	.37			
	46-60	1-13	57-74	25-30	1.30-1.50	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.49	.49			
	60-80	15-45	33-70	15-22	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.3	.37	.43			
175D2:														
Lamont	0-8	50-75	15-40	5-20	1.50-1.70	2-6	0.08-0.11	0.0-2.9	0.5-1.0	.20	.20	4	3	86
	8-20	50-75	11-35	5-15	1.50-1.70	2-6	0.06-0.10	0.0-2.9	0.2-0.5	.24	.24			
	20-40	50-75	10-35	10-20	1.45-1.65	2-6	0.06-0.11	0.0-2.9	0.1-0.3	.24	.24			
	40-80	85-95	0-12	0-10	1.55-1.75	6-20	0.05-0.07	0.0-2.9	0.0-0.2	.05	.05			
208A:														
Sexton	0-8	2-14	65-82	15-22	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	8-12	2-15	71-82	14-22	1.35-1.55	0.2-0.6	0.20-0.22	0.0-2.9	0.3-0.8	.55	.55			
	12-36	0-10	47-63	35-45	1.30-1.50	0.06-0.2	0.13-0.17	6.0-8.9	0.2-0.5	.37	.37			
	36-45	20-44	23-52	27-40	1.50-1.70	0.2-0.6	0.12-0.16	3.0-5.9	0.2-0.5	.32	.32			
	45-78	70-85	5-22	5-14	1.55-1.75	2-6	0.07-0.11	0.0-2.9	0.1-0.3	.10	.15			
	78-80	15-30	50-70	15-27	1.50-1.70	0.2-0.6	0.15-0.19	0.0-2.9	0.1-0.3	.49	.49			
214B:														
Hosmer	0-8	1-7	66-87	12-27	1.35-1.55	0.6-2	0.20-0.24	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	8-10	1-7	71-89	10-22	1.40-1.60	0.2-0.6	0.21-0.25	0.0-2.9	0.3-0.8	.64	.64			
	10-24	2-15	52-80	18-35	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	0.2-0.5	.43	.43			
	24-53	1-20	45-81	18-35	1.45-1.65	0.02-0.2	0.03-0.09	3.0-5.9	0.2-0.5	.49	.49			
	53-60	1-20	50-84	15-30	1.50-1.70	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.3	.49	.49			
218A:														
Newberry	0-9	1-12	70-87	12-20	1.35-1.55	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	9-16	1-12	72-82	12-20	1.40-1.60	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.64	.64			
	16-35	1-8	59-71	25-35	1.30-1.50	0.06-0.6	0.13-0.19	3.0-5.9	0.2-0.5	.43	.43			
	35-48	10-25	41-64	24-35	1.45-1.65	0.06-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.43	.43			
	48-80	10-25	40-55	35-40	1.50-1.70	0.06-0.6	0.10-0.16	6.0-8.9	0.0-0.3	.32	.32			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
219A:														
Millbrook-----------	0-7	1-10	71-87	12-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	7-14	2-9	72-85	12-20	1.40-1.60	0.2-0.6	0.20-0.26	0.0-2.9	0.3-0.8	.64	.64			
	14-35	1-10	57-77	20-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.43	.43			
	35-55	35-53	16-42	21-33	1.40-1.60	0.6-2	0.13-0.17	3.0-5.9	0.1-0.5	.24	.28			
	55-80	55-69	11-32	12-20	1.45-1.65	0.6-2	0.11-0.15	0.0-2.9	0.1-0.3	.24	.24			
287A:														
Chauncey------------	0-13	2-20	60-80	10-20	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.5-5.0	.32	.32	5	5	56
	13-28	3-18	62-80	10-20	1.40-1.60	0.2-0.6	0.20-0.25	0.0-2.9	0.5-1.0	.64	.64			
	28-66	0-13	45-65	35-42	1.30-1.50	0.06-0.2	0.12-0.16	6.0-8.9	0.2-0.5	.37	.37			
	66-80	15-35	41-71	14-24	1.50-1.70	0.2-0.6	0.15-0.18	0.0-2.9	0.0-0.3	.49	.49			
291B:														
Xenia---------------	0-4	2-15	58-82	15-27	1.25-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	4-16	2-15	58-82	15-27	1.35-1.55	0.6-2	0.16-0.22	0.0-2.9	0.3-0.8	.49	.49			
	16-37	2-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.37	.37			
	37-57	20-40	25-53	24-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.28	.32			
	57-80	26-50	35-50	12-25	1.65-1.85	0.2-0.6	0.08-0.14	0.0-2.9	0.1-0.3	.37	.43			
315A:														
Channahon-----------	0-10	5-39	45-80	5-20	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	3.0-4.5	.24	.24	1	5	56
	10-18	15-40	30-60	25-35	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.5-1.5	.32	.32			
	18-80	---	---	---	---	0.0-0.2	---	---	---	---	---			
434A:														
Ridgway-------------	0-10	1-20	64-87	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	10-30	1-18	50-72	27-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.37	.37			
	30-39	30-50	22-43	25-30	1.50-1.70	0.6-2	0.09-0.15	3.0-5.9	0.1-0.3	.28	.28			
	39-80	70-85	5-22	5-14	1.55-1.75	2-20	0.07-0.13	0.0-2.9	0.0-0.2	.15	.15			
434B:														
Ridgway-------------	0-10	1-20	64-87	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	10-30	1-18	50-72	27-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.37	.37			
	30-39	30-50	22-43	25-30	1.50-1.70	0.6-2	0.09-0.15	3.0-5.9	0.1-0.5	.28	.28			
	39-80	70-85	5-22	5-14	1.55-1.75	2-6	0.07-0.13	0.0-2.9	0.0-0.3	.15	.15			
434D2:														
Ridgway-------------	0-10	2-12	61-83	15-27	1.35-1.55	0.6-2	0.19-0.25	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	10-30	1-18	50-72	27-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.37	.37			
	30-39	30-50	22-43	25-30	1.50-1.70	0.6-2	0.09-0.15	3.0-5.9	0.1-0.3	.28	.28			
	39-80	70-85	5-22	5-14	1.55-1.75	2-20	0.07-0.13	0.0-2.9	0.0-0.2	.15	.15			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
453A:														
Muren---------------	0-9	3-12	72-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	9-12	1-10	70-82	12-23	1.35-1.55	0.6-2	0.19-0.23	0.0-2.9	0.3-0.8	.55	.55			
	12-40	1-10	57-71	27-35	1.30-1.50	0.6-2	0.14-0.18	3.0-5.9	0.2-0.5	.37	.37			
	40-60	1-12	58-78	20-30	1.35-1.55	0.2-2	0.18-0.22	0.0-2.9	0.0-0.3	.49	.49			
453B:														
Muren---------------	0-9	3-12	72-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	9-12	1-10	70-82	12-23	1.35-1.55	0.6-2	0.19-0.23	0.0-2.9	0.3-0.8	.55	.55			
	12-40	1-10	57-71	27-35	1.30-1.50	0.6-2	0.14-0.18	3.0-5.9	0.1-0.3	.37	.37			
	40-80	1-12	58-78	20-30	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	0.0-0.2	.49	.49			
618C2:														
Senachwine----------	0-6	15-20	53-65	20-27	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	0.5-2.0	.32	.32	5	6	48
	6-12	15-21	45-58	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	12-27	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	27-80	26-50	35-50	12-25	1.65-1.85	0.2-0.6	0.08-0.14	0.0-2.9	0.1-0.3	.37	.43			
618C3:														
Senachwine----------	0-4	20-40	25-53	27-35	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.3-1.0	.32	.32	4	6	48
	4-33	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.24	.28			
	33-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.37	.43			
618D2:														
Senachwine----------	0-6	15-20	53-65	20-27	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	0.5-2.0	.32	.32	5	6	48
	6-15	15-21	45-58	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.37			
	15-28	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.28	.32			
	28-34	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.37			
	34-80	26-50	35-50	12-25	1.65-1.85	0.2-0.6	0.08-0.14	0.0-2.9	0.1-0.3	.37	.43			
618D3:														
Senachwine----------	0-3	20-40	25-53	27-35	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.3-1.0	.24	.24	4	6	48
	3-25	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.24	.28			
	25-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.37	.43			
802D:														
Orthents, loamy-----	0-10	20-45	20-53	27-35	1.50-1.70	0.2-0.6	0.09-0.15	3.0-5.9	0.5-2.0	.43	.43	5	6	48
	10-60	15-50	20-63	22-30	1.40-1.75	0.06-2	0.09-0.15	3.0-5.9	0.0-0.5	.43	.43			
830B:														
Landfills-----------	---	---	---	---	---	---	---	---	---	---	---	2	6	48

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
842G:														
Hickory-------------	0-5	30-50	35-50	12-20	1.40-1.60	0.6-2	0.13-0.17	0.0-2.9	1.0-2.5	.32	.32	5	5	56
	5-8	30-50	35-50	12-20	1.35-1.55	0.6-2	0.13-0.17	0.0-2.9	0.3-0.8	.32	.32			
	8-52	25-50	25-45	25-35	1.50-1.70	0.6-2	0.10-0.14	3.0-5.9	0.1-0.5	.24	.28			
	52-60	30-50	30-45	10-27	1.60-1.80	0.2-0.6	0.11-0.15	0.0-2.9	0.0-0.3	.28	.37			
Rock outcrop.														
864.														
Pits, quarries														
865:														
Pits, gravel--------	---	---	---	---	---	---	---	---	---	---	---	--	7	38
927C2:														
Blair---------------	0-5	1-14	61-84	15-25	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	5-33	1-14	54-70	27-35	1.30-1.50	0.6-2	0.13-0.17	3.0-5.9	0.2-0.5	.43	.43			
	33-49	15-30	38-61	20-35	1.50-1.70	0.2-0.6	0.12-0.16	3.0-5.9	0.1-0.3	.43	.43			
	49-60	15-30	38-61	20-35	1.55-1.75	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.2	.37	.37			
Atlas---------------	0-4	4-29	55-81	15-27	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3	6	48
	4-34	15-35	30-45	35-45	1.45-1.65	0.06-0.2	0.12-0.16	3.0-5.9	0.2-0.5	.28	.28			
	34-68	20-45	30-50	25-35	1.50-1.75	0.02-0.2	0.06-0.15	1.0-2.9	0.0-0.3	.37	.37			
927C3:														
Blair---------------	0-5	8-20	50-65	27-30	1.40-1.60	0.6-2	0.09-0.13	3.0-5.9	0.3-1.0	.32	.32	5	6	48
	5-33	1-14	54-70	27-35	1.30-1.50	0.6-2	0.13-0.17	3.0-5.9	0.2-0.5	.43	.43			
	33-49	15-30	38-61	20-35	1.50-1.70	0.2-0.6	0.12-0.16	3.0-5.9	0.1-0.3	.43	.43			
	49-60	15-30	38-61	20-35	1.55-1.75	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.2	.37	.37			
Atlas---------------	0-2	8-20	50-65	27-30	1.40-1.60	0.6-2	0.09-0.13	3.0-5.9	0.3-1.0	.32	.32	2	6	48
	2-24	15-35	30-45	35-45	1.45-1.65	0.06-0.2	0.12-0.16	3.0-5.9	0.2-0.5	.28	.32			
	24-68	15-35	30-45	35-45	1.45-1.65	0.02-0.2	0.09-0.13	3.0-5.9	0.0-0.3	.28	.32			
946D2:														
Hickory-------------	0-10	10-30	50-78	12-25	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.32	.32	5	6	48
	10-45	25-50	25-45	25-35	1.50-1.70	0.6-2	0.10-0.14	3.0-5.9	0.1-0.5	.24	.28			
	45-60	30-50	30-45	10-30	1.60-1.80	0.2-0.6	0.11-0.15	0.0-2.9	0.0-0.3	.28	.32			
Atlas---------------	0-6	4-29	55-81	15-27	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3	6	48
	6-50	15-35	30-45	35-45	1.45-1.65	0.06-0.6	0.12-0.16	3.0-5.9	0.2-0.5	.28	.28			
	50-65	20-45	30-50	25-35	1.50-1.75	0.06-0.6	0.06-0.15	0.0-2.9	0.0-0.3	.37	.37			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
946D3:														
Hickory	0-10	20-40	25-53	27-35	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.3-1.0	.32	.32	5	6	48
	10-45	25-50	25-45	25-35	1.50-1.70	0.6-2	0.10-0.14	3.0-5.9	0.1-0.5	.24	.28			
	45-60	30-50	30-45	10-30	1.60-1.80	0.2-0.6	0.11-0.15	0.0-2.9	0.0-0.3	.24	.28			
Atlas	0-6	20-40	25-53	27-35	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.3-1.0	.32	.32	3	6	48
	6-50	15-35	30-45	35-45	1.45-1.65	0.06-0.6	0.12-0.16	3.0-5.9	0.2-0.5	.28	.28			
	50-65	20-45	30-50	25-35	1.50-1.75	0.06-0.6	0.06-0.15	0.0-2.9	0.0-0.3	.32	.32			
991A:														
Cisne	0-8	1-10	70-83	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	3	5	56
	8-17	0-10	70-87	10-20	1.40-1.60	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.64	.64			
	17-37	0-10	50-65	35-45	1.30-1.50	0.02-0.2	0.12-0.18	6.0-8.9	0.2-0.5	.43	.43			
	37-60	15-30	38-61	20-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.5	.43	.43			
	60-80	15-35	31-62	20-35	1.50-1.70	0.2-0.6	0.13-0.19	0.0-2.9	0.0-0.3	.43	.43			
Huey	0-8	1-10	70-83	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	2	5	56
	8-10	0-10	70-87	10-20	1.40-1.60	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.64	.64			
	10-15	1-8	59-71	25-35	1.30-1.50	0.06-0.6	0.13-0.19	3.0-5.9	0.2-0.5	.49	.49			
	15-49	1-8	59-71	25-35	1.30-1.50	0.02-0.06	0.13-0.19	3.0-5.9	0.0-0.3	.49	.49			
	49-65	15-35	31-62	20-35	1.50-1.70	0.02-0.6	0.13-0.19	0.0-2.9	0.0-0.3	.43	.43			
3028A:														
Jules	0-10	10-40	50-70	10-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	1.0-2.5	.37	.37	5	4L	86
	10-54	5-40	50-85	5-18	1.40-1.60	0.6-2	0.19-0.23	0.0-2.9	0.5-1.0	.64	.64			
	54-80	0-19	46-73	27-35	1.35-1.55	0.2-0.6	0.18-0.20	3.0-5.9	0.3-1.0	.37	.37			
3071A:														
Darwin	0-14	0-11	41-59	40-50	1.35-1.55	0.02-0.2	0.12-0.16	6.0-8.9	1.5-5.0	.28	.28	5	4	86
	14-46	0-12	35-58	40-60	1.35-1.55	0.02-0.2	0.11-0.15	6.0-8.9	0.5-1.5	.28	.28			
	46-68	0-15	33-64	35-60	1.35-1.55	0.02-0.06	0.11-0.15	6.0-8.9	0.5-1.0	.37	.37			
3226A:														
Wirt	0-7	30-48	33-48	10-22	1.40-1.60	0.6-2	0.14-0.18	0.0-2.9	0.5-2.5	.28	.28	5	5	56
	7-55	20-38	35-60	18-27	1.50-1.70	0.6-2	0.13-0.17	0.0-2.9	0.5-1.0	.37	.37			
	55-80	70-85	5-22	5-14	1.55-1.75	2-6	0.07-0.11	0.0-2.9	0.3-0.8	.10	.10			
3284A:														
Tice	0-19	2-18	50-71	27-35	1.30-1.50	0.6-2	0.14-0.18	3.0-5.9	3.0-4.5	.28	.28	5	6	48
	19-60	1-15	54-74	24-35	1.35-1.55	0.6-2	0.15-0.19	3.0-5.9	0.3-1.5	.43	.43			
3288A:														
Petrolia	0-14	1-19	46-72	27-35	1.35-1.55	0.2-0.6	0.21-0.23	3.0-5.9	1.0-2.5	.32	.32	5	6	48
	14-60	0-19	46-73	27-35	1.35-1.55	0.2-0.6	0.18-0.20	3.0-5.9	0.3-1.0	.37	.37			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
3302A:														
Ambraw--------------	0-14	15-40	25-50	27-35	1.40-1.60	0.6-2	0.14-0.18	0.0-3.9	2.0-5.0	.24	.24	5	6	48
	14-37	25-40	25-50	25-35	1.45-1.65	0.6-2	0.13-0.17	0.0-3.9	0.5-2.0	.28	.28			
	37-80	40-60	10-40	18-30	1.55-1.75	0.6-2	0.10-0.14	0.0-2.9	0.5-0.9	.28	.28			
3424A:														
Shoals--------------	0-8	10-30	50-75	15-25	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	1.0-2.5	.37	.37	5	5	56
	8-60	20-38	35-60	18-27	1.50-1.70	0.6-2	0.12-0.17	0.0-2.9	0.3-1.0	.43	.43			
3431A:														
Genesee-------------	0-9	1-30	50-80	15-25	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	1.0-2.5	.37	.37	5	5	56
	9-34	15-30	45-67	18-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	0.5-1.0	.37	.37			
	34-72	32-60	22-50	2-18	1.60-1.70	0.6-6	0.12-0.16	0.0-2.9	0.3-1.0	.32	.32			
3450A:														
Brouillett----------	0-11	15-30	50-67	18-27	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	3.5-5.0	.32	.32	5	6	48
	11-26	15-30	45-67	18-27	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	1.5-3.0	.32	.32			
	26-42	15-30	45-67	18-27	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	1.0-2.0	.37	.37			
	42-60	15-50	30-70	10-25	1.35-1.55	0.6-6	0.12-0.16	0.0-2.9	0.5-2.0	.37	.37			
3597A:														
Armiesburg----------	0-14	2-18	47-71	27-35	1.30-1.50	0.6-2	0.21-0.23	3.0-5.9	1.5-4.5	.28	.28	5	6	48
	14-80	1-18	50-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
3665A:														
Stonelick-----------	0-14	30-48	35-48	10-20	1.40-1.60	0.6-2	0.14-0.18	0.0-2.9	1.0-2.5	.28	.28	5	4L	86
	14-60	35-80	15-55	5-15	1.50-1.70	2-6	0.12-0.16	0.0-2.9	0.3-1.0	.37	.37			
7098B:														
Ade-----------------	0-12	75-87	2-20	3-11	1.45-1.65	6-20	0.03-0.07	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	12-42	88-98	1-8	0-8	1.50-1.70	6-20	0.02-0.06	0.0-2.9	0.1-0.5	.02	.02			
	42-80	88-98	1-8	0-8	1.50-1.70	6-20	0.03-0.07	0.0-2.9	0.0-0.3	.02	.02			
7131B:														
Alvin---------------	0-8	55-70	15-35	10-15	1.45-1.65	2-6	0.11-0.15	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	8-11	55-70	15-35	10-15	1.45-1.65	2-6	0.11-0.15	0.0-2.9	0.0-0.5	.28	.28			
	11-25	45-70	12-40	15-18	1.40-1.65	2-6	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			
	25-80	65-95	0-32	3-10	1.45-1.65	2-6	0.05-0.09	0.0-2.9	0.0-0.3	.24	.24			
7155A:														
Stockland-----------	0-8	53-75	14-34	6-20	1.45-1.65	2-6	0.11-0.15	0.0-2.9	2.0-4.5	.10	.15	4	5	56
	8-14	56-80	5-32	10-20	1.35-1.55	2-6	0.08-0.13	0.0-2.9	1.0-3.0	.10	.15			
	14-44	56-80	5-32	10-20	1.35-1.55	2-6	0.08-0.12	0.0-2.9	1.0-1.5	.10	.15			
	44-60	75-87	2-21	2-12	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.2-0.5	.02	.05			
	60-80	87-96	1-12	1-5	1.55-1.75	6-20	0.04-0.08	0.0-2.9	0.0-0.3	.02	.02			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
7155B:														
Stockland-----------	0-16	53-75	12-34	10-20	1.45-1.65	2-6	0.11-0.15	0.0-2.9	2.0-4.5	.10	.15	4	5	56
	16-31	53-82	3-32	10-19	1.50-1.70	2-6	0.12-0.16	0.0-2.9	1.0-2.0	.10	.17			
	31-42	79-89	1-12	8-15	1.50-1.70	2-6	0.04-0.08	0.0-2.9	0.2-0.5	.02	.05			
	42-60	88-97	0-9	0-8	1.50-1.70	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.02	.02			
7155C:														
Stockland-----------	0-14	53-75	12-34	10-20	1.45-1.65	2-6	0.10-0.14	0.0-2.9	2.0-4.5	.10	.15	4	5	56
	14-62	53-82	3-32	10-19	1.50-1.70	2-6	0.06-0.12	0.0-2.9	1.0-2.0	.10	.17			
7175B:														
Lamont--------------	0-8	50-75	15-40	5-20	1.50-1.70	2-6	0.08-0.11	0.0-2.9	0.5-2.0	.20	.20	4	3	86
	8-20	50-75	11-35	5-15	1.50-1.70	2-6	0.06-0.10	0.0-2.9	0.2-0.5	.24	.24			
	20-40	50-75	10-35	10-20	1.45-1.65	2-6	0.06-0.11	0.0-2.9	0.2-0.5	.24	.24			
	40-80	85-95	0-12	0-10	1.55-1.75	6-20	0.05-0.07	0.0-2.9	0.0-0.3	.05	.05			
7266B:														
Disco---------------	0-24	60-75	10-35	5-15	1.45-1.65	2-6	0.10-0.14	0.0-2.9	1.0-2.5	.20	.20	4	3	86
	24-36	60-75	10-35	5-15	1.45-1.65	2-6	0.10-0.14	0.0-2.9	0.5-1.0	.17	.17			
	36-80	85-96	0-10	0-10	1.50-1.70	6-20	0.03-0.07	0.0-2.9	0.0-0.3	.05	.05			
7286A:														
Carmi---------------	0-10	52-70	20-35	10-20	1.45-1.65	2-6	0.10-0.14	0.0-2.9	1.0-5.0	.15	.15	4	3	86
	10-26	52-70	20-35	10-20	1.45-1.65	2-6	0.10-0.14	0.0-2.9	1.0-2.0	.24	.24			
	26-37	60-80	5-25	10-22	1.50-1.70	2-6	0.06-0.10	0.0-2.9	0.5-1.0	.05	.10			
	37-57	52-80	5-35	10-20	1.50-1.70	2-6	0.06-0.12	0.0-2.9	0.2-1.0	.17	.20			
	57-82	75-94	2-20	3-11	1.60-1.80	6-20	0.05-0.09	0.0-2.9	0.2-0.5	.02	.05			
	82-93	86-95	2-5	2-10	1.60-1.80	6-20	0.03-0.07	0.0-2.9	0.2-0.3	.02	.02			
7434B:														
Ridgway-------------	0-7	5-30	50-85	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	5	5	56
	7-29	5-30	35-75	20-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.37	.37			
	29-52	35-65	5-50	15-30	1.55-1.75	6-20	0.08-0.14	0.0-2.9	0.2-0.3	.28	.32			
	52-60	65-90	5-30	5-15	1.55-1.75	6-20	0.08-0.14	0.0-2.9	0.2-0.3	.32	.32			
7571A:														
Whitaker------------	0-10	30-50	35-50	12-20	1.40-1.50	0.6-2	0.13-0.17	0.0-2.9	1.0-2.5	.32	.32	5	5	56
	10-14	30-50	35-50	12-20	1.45-1.55	0.6-2	0.13-0.17	0.0-2.9	0.3-0.8	.37	.37			
	14-34	30-50	22-43	25-30	1.35-1.50	0.6-2	0.13-0.17	3.0-5.9	0.1-0.5	.28	.28			
	34-60	70-85	5-22	5-14	1.55-1.75	2-6	0.07-0.11	0.0-2.9	0.0-0.3	.15	.15			
8431A:														
Genesee-------------	0-7	60-75	10-35	5-15	1.55-1.75	2-6	0.11-0.14	0.0-2.9	1.0-2.5	.20	.20	5	3	86
	7-60	15-30	45-67	18-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	0.8-1.8	.37	.37			
	60-80	15-50	30-70	10-25	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	0.3-1.0	.43	.43			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
8665A:														
Stonelick-----------	0-9	55-70	15-35	10-15	1.45-1.65	2-6	0.11-0.15	0.0-2.9	0.5-1.5	.20	.20	5	3	86
	9-60	35-80	15-55	5-15	1.50-1.70	2-6	0.05-0.11	0.0-2.9	0.3-1.0	.37	.37			

Table 20.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
2A:							
Cisne----------------	0-8	9.2-17	---	5.1-7.3	0	1.5-3.5	0-3
	8-17	8.8-16	---	5.1-6.5	0	0.3-0.8	0-3
	17-37	25-33	18-29	4.5-6.0	0	0.2-0.5	0-5
	37-60	14-26	---	5.1-6.5	0	0.0-0.5	0-5
	60-80	14-26	---	5.6-7.3	0	0.0-0.3	1-13
3A:							
Hoyleton-------------	0-8	11-22	---	4.5-7.3	0	1.5-3.5	0-3
	8-11	15-21	---	4.5-7.3	0	0.3-0.8	0-3
	11-39	25-33	18-27	4.5-5.5	0	0.2-0.5	0-5
	39-80	14-26	---	5.6-7.3	0	0.0-0.3	1-13
3B:							
Hoyleton-------------	0-8	11-22	---	4.5-7.3	0	1.5-3.5	0-3
	8-15	15-21	9.3-18	4.5-6.0	0	0.3-0.8	0-3
	15-34	25-33	18-27	4.5-5.5	0	0.2-0.5	0-5
	34-60	14-26	---	5.1-6.5	0	0.0-0.3	1-13
8F:							
Hickory--------------	0-4	6.5-14	---	4.5-7.3	0	1.0-3.0	0-3
	4-12	7.8-12	---	4.5-7.3	0	0.1-0.5	0-3
	12-46	12-18	---	4.5-6.0	0	0.1-0.5	0-3
	46-58	7.8-17	---	5.1-7.3	0	0.1-0.5	0-3
	58-80	7.8-16	---	5.6-8.4	0-25	0.1-0.5	0-5
8G:							
Hickory--------------	0-5	6.5-11	---	5.1-6.0	0	1.0-3.0	0-3
	5-8	6.4-11	3.2-6.4	4.5-6.0	0	0.5-1.5	0-3
	8-52	13-18	8.3-15	4.5-6.5	0	0.1-0.5	0-3
	52-60	5.1-14	---	5.6-8.4	0-25	0.0-0.3	0-5
12A:							
Wynoose--------------	0-7	9.1-17	---	5.1-7.3	0	1.0-2.5	0-3
	7-20	8.8-16	4.2-14	3.5-6.0	0	0.3-0.8	0-3
	20-36	25-31	14-28	3.5-6.0	0	0.2-0.5	0-5
	36-66	18-26	10-23	3.5-6.0	0	0.0-0.3	0-5
	66-80	18-26	---	5.6-7.3	0	0.0-0.3	1-13
13A:							
Bluford--------------	0-7	9.1-16	---	5.6-7.3	0	1.0-2.5	0-3
	7-20	12-20	7.8-17	4.5-6.0	0	0.2-0.8	0-3
	20-35	25-33	18-29	4.5-6.0	0	0.2-0.5	0-5
	35-60	14-26	10-23	4.5-6.0	0	0.0-0.3	1-13
13B2:							
Bluford--------------	0-9	13-18	---	4.5-7.3	0	0.5-2.0	0-3
	9-37	25-31	18-29	4.5-6.5	0	0.2-0.5	0-5
	37-60	14-23	---	4.5-6.0	0	0.0-0.3	1-13
14B:							
Ava------------------	0-6	6.5-11	---	5.1-7.3	0	1.0-2.5	0
	6-14	6.4-11	3.4-6.8	4.5-5.5	0	0.3-0.8	0
	14-34	13-18	8.3-14	4.5-5.5	0	0.2-0.5	0-3
	34-50	10-16	6.8-15	4.5-5.5	0	0.0-0.3	0-3
	50-60	10-16	6.8-15	4.5-6.0	0	0.0-0.3	0-5

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
14C2:							
Ava------------------	0-7	8.0-12	---	5.1-7.3	0	0.5-2.0	0
	7-31	13-19	7.9-14	4.5-5.5	0	0.3-0.8	0-3
	31-50	10-16	6.4-12	4.5-5.5	0	0.2-0.5	0-3
	50-60	10-16	---	4.5-6.0	0	0.0-0.3	0-5
31A:							
Pierron--------------	0-8	11-21	8.0-16	4.5-7.3	0	1.0-3.0	0
	8-20	8.5-18	6.0-13	4.5-7.3	0	0.1-0.5	0
	20-36	---	14-27	3.5-5.5	0	0.1-0.5	0
	36-66	20-31	15-23	4.5-6.5	0	0.1-0.5	0
	66-80	15-23	12-17	5.1-7.3	0	0.1-0.5	0
48A:							
Ebbert---------------	0-13	13-21	---	5.1-7.3	0	2.0-4.0	0
	13-22	---	8.3-14	5.1-6.0	0	1.0-3.0	0
	22-48	21-28	---	4.5-6.5	0	0.5-1.5	0-3
	48-60	14-23	---	5.6-7.3	0	0.0-0.5	0-3
50A:							
Virden---------------	0-11	17-23	---	5.6-7.3	0	3.0-5.0	0
	11-36	27-33	---	5.6-7.3	0	0.5-2.0	0
	36-60	15-23	---	6.1-7.8	0-15	0.1-0.3	0
79B:							
Menfro---------------	0-10	10-23	---	5.6-7.3	0	1.0-2.5	0
	10-39	20-27	---	4.5-6.5	0	0.2-0.5	0
	39-70	15-23	---	5.1-7.3	0	0.1-0.3	0
	70-80	11-22	---	5.6-7.8	0-5	0.0-0.3	0
79D2:							
Menfro---------------	0-8	10-22	---	5.6-7.3	0	0.5-2.0	0
	8-35	---	13-17	4.5-6.0	0	0.2-0.5	0
	35-49	---	9.9-15	5.1-7.3	0	0.1-0.3	0
	49-75	11-22	---	5.6-7.8	0-5	0.0-0.3	0
109A:							
Racoon---------------	0-6	12-21	---	4.5-7.3	0	1.0-2.5	0-3
	6-30	12-20	7.9-13	4.5-7.3	0	0.3-0.8	0-3
	30-59	20-27	13-18	4.5-5.5	0	0.2-0.5	0-5
	59-73	13-20	---	5.6-7.3	0	0.0-0.2	1-13
112A:							
Cowden---------------	0-8	9.0-17	---	5.6-7.3	0	1.5-3.5	0-5
	8-19	---	9.4-14	4.5-6.0	0	0.3-1.0	0
	19-50	26-32	---	4.5-6.5	0	0.2-0.5	0-5
	50-80	14-23	---	5.6-7.3	0	0.0-0.3	0-5
113A:							
Oconee---------------	0-9	9.0-17	---	5.1-7.8	0	1.5-3.5	0
	9-12	---	9.4-14	4.5-7.3	0	0.3-0.8	0
	12-33	26-32	---	4.5-6.0	0	0.2-0.5	0
	33-56	15-27	---	5.1-6.5	0	0.1-0.5	0
	56-74	15-23	---	5.6-7.8	0	0.1-0.3	0
113B:							
Oconee---------------	0-8	9.2-17	---	5.1-7.8	0-10	1.5-3.5	0
	8-16	15-21	---	4.5-7.3	0	0.3-0.8	0
	16-47	26-31	---	4.5-6.0	0	0.2-0.5	0
	47-65	15-26	---	5.1-6.5	0	0.1-0.3	0
	65-80	15-23	---	5.6-7.8	0-10	0.1-0.3	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
116A:							
Whitson----------------	0-10	13-23	---	5.1-7.3	0	1.0-2.5	0
	10-23	12-22	---	4.5-7.3	0	0.3-0.8	0
	23-30	---	15-20	4.5-5.5	0	0.2-0.5	0
	30-52	---	12-15	4.5-6.0	0	0.1-0.5	0
	52-62	---	7.6-14	4.5-6.5	0	0.1-0.3	0
	62-80	---	7.2-11	4.5-7.3	0	0.0-0.3	0
122B:							
Colp-------------------	0-8	13-23	---	5.1-7.3	0	1.0-2.5	0
	8-11	12-22	---	5.1-7.3	0	0.3-0.8	0
	11-19	---	13-18	4.5-6.0	0	0.2-0.8	0
	19-54	26-34	---	5.1-7.8	0-10	0.2-0.5	0
	54-60	19-33	---	7.4-8.4	15-40	0.1-0.3	0
122D2:							
Colp-------------------	0-8	12-22	---	5.1-7.3	0	0.5-2.0	0
	8-11	12-22	---	5.1-7.3	0	0.3-0.8	0
	11-19	---	13-18	4.5-6.0	0	0.2-0.8	0
	19-49	26-34	---	5.1-7.8	0-10	0.2-0.5	0
	49-60	19-33	---	7.4-8.4	15-40	0.1-0.3	0
131B:							
Alvin------------------	0-8	8.6-13	---	5.1-7.3	0	0.5-2.0	0
	8-11	7.6-12	---	5.1-7.3	0	0.0-0.5	0
	11-25	11-15	---	5.1-7.3	0	0.0-0.5	0
	25-80	2.6-8.5	---	5.1-8.4	0-25	0.0-0.3	0
131C2:							
Alvin------------------	0-10	8.6-13	---	5.1-7.3	0	0.5-1.0	0
	10-30	12-15	---	5.1-7.3	0	0.2-0.5	0
	30-60	2.6-8.5	---	5.1-7.8	0-25	0.0-0.3	0
132A:							
Starks-----------------	0-8	13-23	---	5.1-7.3	0	1.0-2.5	0
	8-13	12-22	---	5.1-7.3	0	0.3-0.8	0
	13-36	20-27	---	4.5-6.5	0	0.2-0.5	0
	36-44	8.3-23	---	5.1-7.3	0-5	0.2-0.5	0
	44-60	4.3-16	---	6.1-7.8	0-5	0.1-0.3	0
134A:							
Camden-----------------	0-8	13-23	---	6.1-7.3	0	1.0-2.5	0
	8-13	12-22	---	6.1-7.3	0	0.3-0.8	0
	13-30	20-27	---	5.6-7.3	0	0.2-0.5	0
	30-38	17-21	---	5.1-6.5	0	0.1-0.5	0
	38-56	13-23	---	5.1-6.5	0	0.0-0.3	0
	56-60	7.6-17	---	5.6-7.3	0-25	0.0-0.3	0
134B:							
Camden-----------------	0-9	13-23	---	6.1-7.3	0	1.0-2.5	0
	9-14	12-22	---	6.1-7.3	0	0.3-0.8	0
	14-22	17-21	---	6.1-7.3	0	0.1-0.5	0
	22-35	20-27	---	5.6-6.5	0	0.1-0.5	0
	35-52	9.3-16	---	5.1-6.5	0	0.1-0.5	0
	52-80	5.2-12	---	5.6-7.8	0-25	0.1-0.3	0
134C2:							
Camden-----------------	0-7	12-22	---	5.1-7.3	0	0.5-2.0	0
	7-34	19-27	---	5.1-7.3	0	0.1-0.5	0
	34-43	15-23	---	5.1-7.3	0	0.0-0.5	0
	43-80	4.1-12	---	6.1-7.8	0-25	0.0-0.3	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
136A:							
Brooklyn-------------	0-9	13-19	---	5.6-7.3	0	1.5-3.5	0
	9-14	11-18	---	4.5-7.3	0	0.2-0.8	0
	14-40	25-34	---	4.5-7.3	0	0.1-0.5	0
	40-62	14-21	---	5.1-7.8	0-5	0.1-0.5	0
	62-73	5.2-14	---	6.6-7.8	0-15	0.1-0.3	0
	73-80	6.3-13	---	7.4-8.4	15-40	0.1-0.3	0-6
138A:							
Shiloh---------------	0-19	29-33	---	6.1-7.3	0	3.0-5.0	0
	19-48	27-36	---	6.1-7.3	0	1.0-3.5	0
	48-68	24-34	---	6.1-7.3	0	0.2-1.0	0
	68-80	26-38	---	6.1-7.8	0	0.2-1.0	0-5
149A:							
Brenton--------------	0-14	13-23	---	5.6-6.5	0	3.5-5.0	0
	14-33	21-28	---	5.6-6.5	0	0.5-1.5	0
	33-45	7.9-14	---	6.1-7.3	0	0.2-0.5	0
	45-80	5.2-14	---	6.6-7.8	0-15	0.1-0.5	0
152A:							
Drummer--------------	0-14	23-30	---	5.6-7.3	0	4.5-7.0	0
	14-41	22-28	---	5.6-7.3	0	0.8-2.0	0
	41-47	10-14	---	6.6-7.8	0-5	0.2-0.5	0
	47-60	5.2-11	---	7.4-8.4	0-15	0.1-0.3	0
164A:							
Stoy-----------------	0-9	10-20	---	5.6-7.3	0	1.0-2.5	0
	9-14	10.0-19	---	5.6-7.3	0	0.3-0.8	0
	14-31	---	13-17	4.5-5.5	0	0.2-0.5	0
	31-60	14-26	---	5.1-6.0	0	0.0-0.3	0
164B:							
Stoy-----------------	0-6	10-20	---	5.0-6.5	0	1.0-2.5	0
	6-13	---	6.5-12	4.5-6.0	0	0.3-0.8	0
	13-32	---	13-17	4.5-5.5	0	0.2-0.5	0
	32-65	---	9.3-17	4.5-5.5	0	0.0-0.3	0
165A:							
Weir-----------------	0-8	13-23	---	5.1-7.3	0	1.0-2.5	0
	8-18	12-22	---	3.5-7.3	0	0.3-0.8	0
	18-46	---	17-27	3.5-5.5	0	0.2-0.5	0
	46-60	---	12-20	3.5-6.0	0	0.1-0.5	0
	60-80	---	7.2-11	4.5-6.5	0	0.0-0.3	0
175D2:							
Lamont---------------	0-8	4.6-17	---	5.6-7.3	0	0.5-1.0	0
	8-20	4.5-12	---	5.6-6.5	0	0.2-0.5	0
	20-40	8.1-16	---	5.1-6.0	0	0.1-0.3	0
	40-80	0.0-8.3	---	5.1-6.5	0	0.0-0.2	0
208A:							
Sexton---------------	0-8	13-19	---	5.1-7.3	0	1.0-2.5	0
	8-12	11-18	---	4.5-7.3	0	0.3-0.8	0
	12-36	---	17-22	4.5-6.5	0	0.2-0.5	0
	36-45	---	13-20	5.1-6.5	0	0.2-0.5	0
	45-78	---	2.8-7.4	5.1-7.3	0	0.1-0.3	0
	78-80	12-21	---	6.6-7.8	0-15	0.1-0.3	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
214B:							
Hosmer---------------	0-8	6.5-15	---	6.1-7.3	0	1.0-2.5	0
	8-10	5.3-12	---	4.5-6.0	0	0.3-0.8	0
	10-24	9.4-18	---	4.5-6.0	0	0.2-0.5	0
	24-53	9.4-18	---	4.5-6.0	0	0.2-0.5	0
	53-60	7.6-16	---	5.1-6.0	0	0.0-0.3	0
218A:							
Newberry-------------	0-9	11-17	---	5.6-7.3	0	1.5-3.5	0-3
	9-16	10.0-16	---	4.5-6.0	0	0.3-0.8	0-3
	16-35	19-27	12-18	4.5-6.0	0	0.2-0.5	0-13
	35-48	17-27	11-18	4.5-6.0	0	0.0-0.5	3-13
	48-80	23-30	---	5.6-7.3	0-5	0.0-0.3	3-13
219A:							
Millbrook------------	0-7	11-17	---	5.6-7.3	0	1.5-3.5	0
	7-14	10.0-16	---	5.6-7.3	0	0.3-0.8	0
	14-35	16-27	---	5.1-6.5	0	0.2-0.5	0
	35-55	16-25	---	5.6-7.3	0	0.1-0.5	0
	55-80	9.3-16	---	6.6-8.4	0-10	0.1-0.3	0
287A:							
Chauncey-------------	0-13	9.0-18	---	5.6-6.5	0	1.5-5.0	0
	13-28	---	5.6-11	4.5-6.0	0	0.5-1.0	0
	28-66	26-32	---	4.5-6.5	0	0.2-0.5	0
	66-80	10-19	---	5.6-7.3	0	0.0-0.3	0
291B:							
Xenia----------------	0-4	13-23	---	5.6-7.3	0	1.0-2.5	0
	4-16	12-22	---	5.6-7.3	0	0.3-0.8	0
	16-37	20-27	---	5.1-7.3	0	0.2-0.5	0
	37-57	12-18	---	5.6-7.3	0-5	0.1-0.5	0
	57-80	6.3-13	---	7.4-8.4	15-40	0.1-0.3	0-6
315A:							
Channahon------------	0-10	5.0-18	---	6.1-7.3	0-5	3.0-4.5	0
	10-18	20-28	---	6.1-7.3	0-5	0.5-1.5	0
	18-80	---	---	---	---	---	---
434A:							
Ridgway--------------	0-10	8.9-17	---	5.1-7.3	0	1.0-2.5	0
	10-30	20-27	---	5.1-7.3	0	0.2-0.5	0
	30-39	19-23	---	5.0-6.5	0	0.1-0.3	0
	39-80	4.1-11	---	5.1-7.3	0	0.0-0.2	0
434B:							
Ridgway--------------	0-10	8.9-17	---	5.1-7.3	0	1.0-2.5	0
	10-30	20-27	---	5.1-7.3	0	0.2-0.5	0
	30-39	---	12-15	5.0-6.5	0	0.1-0.5	0
	39-80	4.1-12	---	5.1-7.3	0	0.0-0.3	0
434D2:							
Ridgway--------------	0-10	12-22	---	5.1-7.3	0	0.5-2.0	0
	10-30	20-27	---	5.1-7.3	0	0.2-0.5	0
	30-39	---	12-15	5.0-6.5	0	0.1-0.3	0
	39-80	4.1-11	---	5.1-7.3	0	0.0-0.2	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
453A:							
Muren----------------	0-9	8.9-16	---	6.1-7.3	0	1.0-2.5	0
	9-12	10.0-19	---	5.1-6.0	0	0.3-0.8	0
	12-40	---	13-17	4.5-6.0	0	0.2-0.5	0
	40-60	14-23	---	6.6-7.8	0-5	0.0-0.3	0
453B:							
Muren----------------	0-9	8.9-16	---	6.1-7.3	0	1.0-2.5	0
	9-12	10.0-19	---	5.1-6.0	0	0.3-0.8	0
	12-40	---	13-17	4.5-6.0	0	0.1-0.3	0
	40-80	14-22	---	6.6-7.8	0-5	0.0-0.2	0
618C2:							
Senachwine-----------	0-6	11-15	---	5.6-7.3	0	0.5-2.0	0
	6-12	14-18	---	5.6-7.3	0	0.1-0.5	0
	12-27	14-18	---	5.1-7.3	0	0.1-0.5	0
	27-80	6.3-13	---	7.4-8.4	15-40	0.1-0.3	0-6
618C3:							
Senachwine-----------	0-4	14-19	---	5.6-7.3	0	0.3-1.0	0
	4-33	14-18	---	5.1-7.3	0	0.1-0.5	0
	33-60	5.1-11	---	7.4-8.4	15-40	0.0-0.5	0
618D2:							
Senachwine-----------	0-6	11-15	---	5.6-7.3	0	0.5-2.0	0
	6-15	14-18	---	5.6-7.3	0	0.1-0.5	0
	15-28	14-18	---	5.1-7.3	0	0.1-0.5	0
	28-34	10-14	---	5.1-7.3	0-5	0.1-0.5	0
	34-80	6.3-13	---	7.4-8.4	15-40	0.1-0.3	0-6
618D3:							
Senachwine-----------	0-3	14-19	---	5.6-7.3	0	0.3-1.0	0
	3-25	14-18	---	5.1-7.3	0	0.1-0.5	0
	25-60	5.1-11	---	7.4-8.4	15-40	0.0-0.5	0
802D:							
Orthents, loamy------	0-10	18-25	---	5.6-7.8	0-10	0.5-2.0	0
	10-60	11-19	---	5.6-7.8	0-15	0.0-0.5	0
830B.							
Landfills							
842G:							
Hickory--------------	0-5	6.5-11	---	5.1-7.3	0	1.0-2.5	0
	5-8	---	3.4-6.8	4.5-6.0	0	0.3-0.8	0
	8-52	---	8.3-15	4.5-6.5	0	0.1-0.5	0
	52-60	5.1-14	---	5.6-8.4	0-25	0.0-0.3	0
Rock outcrop.							
864.							
Pits, quarries							
865.							
Pits, gravel							

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
927C2:							
Blair----------------	0-5	10-17	---	5.1-7.3	0	0.5-2.0	0
	5-33	---	13-18	4.5-6.0	0	0.2-0.5	0
	33-49	14-26	---	5.1-7.3	0	0.1-0.3	0-2
	49-60	14-26	---	5.6-7.8	0	0.0-0.2	0-5
Atlas----------------	0-4	12-22	---	4.5-7.3	0	0.5-2.0	0
	4-34	---	17-22	4.5-7.3	0	0.2-0.5	0
	34-68	17-26	---	6.1-7.8	0	0.0-0.3	0-5
927C3:							
Blair----------------	0-5	18-27	---	4.5-7.3	0	0.3-1.0	0
	5-33	---	13-18	4.5-6.0	0	0.2-0.5	0
	33-49	14-26	---	5.1-7.3	0	0.1-0.3	0-2
	49-60	14-26	---	5.6-7.8	0	0.0-0.2	0-5
Atlas----------------	0-2	21-24	---	4.5-7.3	0	0.3-1.0	0
	2-24	26-34	---	4.5-7.3	0	0.2-0.5	0
	24-68	23-33	---	6.1-7.8	0	0.0-0.3	0-5
946D2:							
Hickory--------------	0-10	6.5-14	---	4.5-7.3	0	0.5-2.0	0
	10-45	---	8.3-15	4.5-6.5	0	0.1-0.5	0
	45-60	5.1-16	---	5.6-8.4	0-15	0.0-0.3	0
Atlas----------------	0-6	12-22	---	4.5-7.3	0	0.5-2.0	0
	6-50	---	17-22	4.5-7.3	0	0.2-0.5	0
	50-65	17-26	---	6.1-7.8	0	0.0-0.3	0-5
946D3:							
Hickory--------------	0-10	15-20	---	4.5-7.3	0	0.3-1.0	0
	10-45	---	8.3-15	4.5-6.5	0	0.1-0.5	0
	45-60	5.1-16	---	5.6-8.4	0-15	0.0-0.3	0
Atlas----------------	0-6	21-27	---	4.5-7.3	0	0.3-1.0	0
	6-50	---	17-22	4.5-7.3	0	0.2-0.5	0
	50-65	17-26	---	6.1-7.8	0	0.0-0.3	0-5
991A:							
Cisne----------------	0-8	9.2-17	---	5.1-7.3	0	1.5-3.5	0-3
	8-17	8.8-16	---	5.1-6.5	0	0.3-0.8	0-3
	17-37	25-32	18-29	4.5-6.0	0	0.2-0.5	0-5
	37-60	14-26	---	5.1-6.5	0	0.0-0.5	0-5
	60-80	14-26	---	5.6-7.3	0	0.0-0.3	1-13
Huey-----------------	0-8	8.9-17	---	5.1-7.3	0	1.0-2.5	0-5
	8-10	8.5-16	---	5.6-7.3	0	0.3-0.8	0-5
	10-15	19-27	---	6.1-8.4	0-10	0.2-0.5	0-13
	15-49	17-26	---	7.4-9.0	0-10	0.0-0.3	13-30
	49-65	14-26	---	6.6-8.4	0-10	0.0-0.3	4-20
3028A:							
Jules----------------	0-10	8.9-23	---	7.4-8.4	15-35	1.0-2.5	0
	10-54	4.6-15	---	7.4-8.4	15-40	0.5-1.0	0
	54-80	21-27	---	7.4-8.4	15-40	0.3-1.0	0
3071A:							
Darwin---------------	0-14	31-40	---	6.1-7.3	0	1.5-5.0	0
	14-46	30-45	---	6.1-7.8	0	0.5-1.5	0
	46-68	27-45	---	6.6-7.8	0-25	0.5-1.0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
3226A:							
Wirt-----------------	0-7	8.6-19	---	5.6-7.3	0	0.5-2.5	0
	7-55	15-22	---	5.6-7.3	0	0.5-1.0	0
	55-80	4.6-12	---	5.6-7.3	0	0.3-0.8	0
3284A:							
Tice-----------------	0-19	23-29	---	6.1-7.3	0	3.0-4.5	0
	19-60	19-28	---	6.1-7.3	0	0.3-1.5	0
3288A:							
Petrolia-------------	0-14	22-28	---	5.6-7.3	0	1.0-2.5	0
	14-60	21-27	---	5.6-7.3	0	0.3-1.0	0
3302A:							
Ambraw---------------	0-14	22-29	---	5.6-7.3	0	2.0-5.0	0
	14-37	20-28	---	5.1-6.5	0	0.5-2.0	0
	37-80	15-24	---	5.6-7.3	0	0.5-0.9	0
3424A:							
Shoals---------------	0-8	13-21	---	6.6-7.3	0	1.0-2.5	0
	8-60	14-22	---	6.6-7.8	0-5	0.3-1.0	0
3431A:							
Genesee--------------	0-9	13-21	---	6.1-7.3	0	1.0-2.5	0
	9-34	15-22	---	6.1-7.8	0-10	0.5-1.0	0
	34-72	1.5-15	---	7.4-8.4	5-25	0.3-1.0	0
3450A:							
Brouillett-----------	0-11	16-23	---	6.1-7.8	0	3.5-5.0	0
	11-26	15-23	---	6.1-7.8	0	1.5-3.0	0
	26-42	15-22	---	6.1-7.8	0-3	1.0-2.0	0
	42-60	8.6-21	---	6.6-8.4	0-15	0.5-2.0	0
3597A:							
Armiesburg-----------	0-14	22-29	---	6.1-7.8	0	1.5-4.5	0
	14-80	21-28	---	6.1-7.8	0-10	0.5-1.5	0
3665A:							
Stonelick------------	0-14	8.9-17	---	7.4-8.4	1-20	1.0-2.5	0
	14-60	4.6-13	---	7.4-8.4	1-20	0.3-1.0	0
7098B:							
Ade------------------	0-12	3.6-11	---	5.6-6.5	0	1.0-2.0	0
	12-42	0.0-5.8	---	5.6-6.5	0	0.1-0.5	0
	42-80	0.4-5.8	---	5.6-7.3	0	0.0-0.3	0
7131B:							
Alvin----------------	0-8	8.6-13	---	5.1-7.3	0	0.5-2.0	0
	8-11	7.6-12	---	5.1-7.3	0	0.0-0.5	0
	11-25	11-15	---	5.1-7.3	0	0.0-0.5	0
	25-80	2.6-8.5	---	5.1-8.4	0-25	0.0-0.3	0
7155A:							
Stockland------------	0-8	5.8-18	---	5.6-7.3	0	2.0-4.5	0
	8-14	8.9-17	---	5.1-6.5	0	1.0-3.0	0
	14-44	8.9-17	---	5.1-6.5	0	1.0-1.5	0
	44-60	2.0-10	---	5.6-7.3	0	0.2-0.5	0
	60-80	1.0-4.5	---	7.4-8.4	5-35	0.0-0.3	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Organic matter	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
7155B:							
Stockland	0-16	9.1-18	---	5.6-7.3	0	2.0-4.5	0
	16-31	8.9-16	---	5.6-7.3	0	1.0-2.0	0
	31-42	6.8-12	---	5.6-7.3	0	0.2-0.5	0
	42-60	0.0-7.1	---	5.6-7.3	0	0.0-0.5	0
7155C:							
Stockland	0-14	9.1-18	---	5.1-7.3	0	2.0-4.5	0
	14-62	8.9-16	---	5.6-7.3	0	1.0-2.0	0
7175B:							
Lamont	0-8	4.6-17	---	5.6-7.3	0	0.5-2.0	0
	8-20	4.5-12	---	5.6-6.5	0	0.2-0.5	0
	20-40	8.3-16	---	5.1-6.0	0	0.2-0.5	0
	40-80	0.0-8.5	---	5.1-6.5	0	0.0-0.3	0
7266B:							
Disco	0-24	4.8-13	---	6.1-7.3	0	1.0-2.5	0
	24-36	4.6-13	---	5.6-7.3	0	0.5-1.0	0
	36-80	0.0-8.5	---	5.1-7.3	0	0.0-0.3	0
7286A:							
Carmi	0-10	9.0-18	---	5.1-7.3	0	1.0-5.0	0
	10-26	8.9-17	---	5.1-7.3	0	1.0-2.0	0
	26-37	8.6-18	---	5.0-6.0	0	0.5-1.0	0
	37-57	8.4-17	---	5.0-6.0	0	0.2-1.0	0
	57-82	2.8-9.4	---	5.6-7.3	0-15	0.2-0.5	0
	82-93	2.0-8.5	---	7.4-8.4	5-25	0.2-0.3	0
7434B:							
Ridgway	0-7	8.9-17	---	5.1-7.3	0	1.0-2.5	0-3
	7-29	16-27	---	5.1-7.3	0	0.2-0.5	0-3
	29-52	8.1-16	5.3-10	4.5-6.5	0	0.2-0.3	0-3
	52-60	4.1-11	2.6-7.3	5.1-7.3	0	0.2-0.3	0-13
7571A:							
Whitaker	0-10	6.5-11	---	5.6-7.3	0	1.0-2.5	0
	10-14	6.4-11	---	5.6-7.3	0	0.3-0.8	0
	14-34	---	8.3-12	5.1-7.3	0	0.1-0.5	0
	34-60	2.6-7.4	---	6.1-7.8	0-5	0.0-0.3	0
8431A:							
Genesee	0-7	4.8-13	---	6.1-7.8	0	1.0-2.5	0
	7-60	15-22	---	6.1-7.8	0-5	0.8-1.8	0
	60-80	8.5-20	---	7.4-8.4	0-25	0.3-1.0	0
8665A:							
Stonelick	0-9	8.6-13	---	7.4-7.8	0-5	0.5-1.5	0
	9-60	4.6-13	---	7.4-8.4	1-20	0.3-1.0	0

Table 21.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Months	Water table			Ponding			Flooding	
			Upper limit	Lower limit	Kind of water table	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft		Ft				
2A:										
Cisne-----------------	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
3A:										
Hoyleton--------------	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
3B:										
Hoyleton--------------	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
8F:										
Hickory---------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
8G:										
Hickory---------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
12A:										
Wynoose---------------	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
13A:										
Bluford---------------	C	Jan-May	0.5-2.0	2.5-4.6	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
13B2:										
Bluford---------------	C	Jan-May	0.5-2.0	2.5-4.6	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
14B:										
Ava-------------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.5-2.9	2.1-3.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
14C2:										
Ava-------------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.5-2.9	2.1-3.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
31A:										
Pierron---------------	D	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
48A:										
Ebbert----------------	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
50A:										
Virden----------------	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
79B:										
Menfro----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
79D2:										
Menfro----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
109A:										
Racoon----------------	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
112A:										
Cowden----------------	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
113A:										
Oconee----------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
113B:										
Oconee----------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
116A:										
Whitson---------------	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Very brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
122B:										
Colp------------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-4.0	2.3-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
122D2:										
Colp------------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-4.0	2.3-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
131B:										
Alvin-----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
131C2:										
Alvin-----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
132A:										
Starks----------------	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
134A:										
Camden----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
134B:										
Camden----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
134C2:										
Camden----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
136A:										
Brooklyn--------------	C/D	Jan-May	0.0-1.0	5.0-6.7	Perched	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
138A:										
Shiloh----------------	C/D	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	None
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
149A:										
Brenton	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
152A:										
Drummer	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
164A:										
Stoy	C	Jan-May	1.0-2.0	2.1-3.7	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
164B:										
Stoy	C	Jan-May	1.0-2.0	2.1-3.7	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
165A:										
Weir	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
175D2:										
Lamont	B	---	>6.0	>6.0	---	---	---	---	---	---
208A:										
Sexton	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
214B:										
Hosmer	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.5-2.5	1.7-3.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
218A:										
Newberry	C	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
219A:										
Millbrook	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
287A:										
Chauncey	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
291B:										
Xenia	B	Jan-May	1.5-2.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
315A:										
Channahon	D	---	>6.0	>6.0	---	---	---	---	---	---
434A:										
Ridgway	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
434B:										
Ridgway	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
434D2:										
Ridgway	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
453A:										
Muren	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.5-2.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
453B:										
Muren	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.5-2.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
618C2:										
Senachwine	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
618C3:										
Senachwine	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
618D2:										
Senachwine	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
618D3:										
Senachwine	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
802D:										
Orthents, loamy	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	3.3-6.0	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
830B:										
Landfills	C	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
842G:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Rock outcrop.										
864.										
Pits, quarries										
865.										
Pits, gravel										
927C2:										
Blair	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Atlas	D	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
927C3:										
Blair	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Atlas	D	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
946D2:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Atlas	D	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
946D3:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Atlas	D	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
991A:										
Cisne	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Huey	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
3028A:										
Jules	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3071A:										
Darwin	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	---	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Frequent
3226A:										
Wirt	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3284A:										
Tice	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3288A:										
Petrolia	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	---	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Frequent
3302A:										
Ambraw	B	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	---	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Frequent
3424A:										
Shoals	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3431A:										
Genesee	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
3450A:										
Brouillett------------	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3597A:										
Armiesburg-----------	B	Jan	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Feb-Apr	3.5-6.5	>6.0	Apparent	---	---	None	Brief	Frequent
		May-Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3665A:										
Stonelick-------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
7098B:										
Ade-------------------	A	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7131B:										
Alvin-----------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7155A:										
Stockland-------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7155B:										
Stockland-------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7155C:										
Stockland-------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7175B:										
Lamont----------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7266B:										
Disco-----------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7286A:										
Carmi-----------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
7434B:										
Ridgway----------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
7571A:										
Whitaker---------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	Very brief	Rare
		Jun	>6.0	>6.0	---	---	---	None	Very brief	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Very brief	Rare
8431A:										
Genesee----------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Occasional
8665A:										
Stonelick--------------	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Occasional

Table 22.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
2A:							
Cisne	Abrupt textural change	16-21	---	---	High	High	High
3A:							
Hoyleton	---	---	---	---	High	High	High
3B:							
Hoyleton	---	---	---	---	High	High	High
8F:							
Hickory	---	---	---	---	Moderate	Moderate	High
8G:							
Hickory	---	---	---	---	Moderate	Moderate	High
12A:							
Wynoose	Abrupt textural change	13-30	---	---	High	High	High
13A:							
Bluford	Fragipan	30-55	6-30	Noncemented	High	High	High
13B2:							
Bluford	Fragipan	30-55	6-30	Noncemented	High	High	High
14B:							
Ava	Fragipan	25-40	10-33	Noncemented	High	High	High
14C2:							
Ava	Fragipan	25-40	10-33	Noncemented	High	High	High
31A:							
Pierron	Abrupt textural change	14-24	---	---	High	High	High
48A:							
Ebbert	---	---	---	---	High	High	High
50A:							
Virden	---	---	---	---	High	High	Moderate
79B:							
Menfro	---	---	---	---	High	Moderate	High
79D2:							
Menfro	---	---	---	---	High	Moderate	High
109A:							
Racoon	---	---	---	---	High	High	High
112A:							
Cowden	---	---	---	---	High	High	High
113A:							
Oconee	---	---	---	---	High	High	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
113B:							
Oconee	---	---	---	---	High	High	High
116A:							
Whitson	---	---	---	---	High	High	High
122B:							
Colp	---	---	---	---	High	High	Moderate
122D2:							
Colp	---	---	---	---	High	High	Moderate
131B:							
Alvin	---	---	---	---	Moderate	Low	Moderate
131C2:							
Alvin	---	---	---	---	Moderate	Low	Moderate
132A:							
Starks	---	---	---	---	High	High	High
134A:							
Camden	---	---	---	---	High	Moderate	Moderate
134B:							
Camden	---	---	---	---	High	Moderate	Moderate
134C2:							
Camden	---	---	---	---	High	Moderate	Moderate
136A:							
Brooklyn	Abrupt textural change	7-21	---	Noncemented	High	High	High
138A:							
Shiloh	---	---	---	---	High	High	Low
149A:							
Brenton	---	---	---	---	High	High	Moderate
152A:							
Drummer	---	---	---	---	High	High	Moderate
164A:							
Stoy	Fragipan	25-45	8-30	Noncemented	High	High	High
164B:							
Stoy	Fragipan	25-45	8-30	Noncemented	High	High	High
165A:							
Weir	---	---	---	---	High	High	High
175D2:							
Lamont	---	---	---	---	Moderate	Low	High
208A:							
Sexton	---	---	---	---	High	High	High
214B:							
Hosmer	Fragipan	20-36	24-50	Noncemented	High	High	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
218A:							
Newberry	---	---	---	---	High	High	High
219A:							
Millbrook	---	---	---	---	High	High	Moderate
287A:							
Chauncey	---	---	---	---	High	High	High
291B:							
Xenia	Dense material	40-60	---	Noncemented	High	High	Moderate
315A:							
Channahon	Lithic bedrock	10-20	---	---	High	Moderate	Low
434A:							
Ridgway	---	---	---	---	High	Moderate	Moderate
434B:							
Ridgway	---	---	---	---	High	Moderate	High
434D2:							
Ridgway	---	---	---	---	High	Moderate	Moderate
453A:							
Muren	---	---	---	---	High	High	High
453B:							
Muren	---	---	---	---	High	High	High
618C2:							
Senachwine	---	---	---	---	Moderate	Moderate	Moderate
618C3:							
Senachwine	---	---	---	---	Moderate	Moderate	Moderate
618D2:							
Senachwine	---	---	---	---	Moderate	Moderate	Moderate
618D3:							
Senachwine	---	---	---	---	Moderate	Moderate	Moderate
802D:							
Orthents, loamy	---	---	---	---	Moderate	High	Moderate
830B.							
Landfills							
842G:							
Hickory	---	---	---	---	Moderate	Moderate	High
Rock outcrop	Lithic bedrock	0-4	---	Indurated	---	---	---
864.							
Pits, quarries							
865.							
Pits, gravel							

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
927C2:							
Blair	---	---	---	---	High	High	High
Atlas	---	---	---	---	Moderate	High	High
927C3:							
Blair	---	---	---	---	High	High	High
Atlas	---	---	---	---	High	High	High
946D2:							
Hickory	---	---	---	---	Moderate	Moderate	High
Atlas	---	---	---	---	Moderate	High	High
946D3:							
Hickory	---	---	---	---	Moderate	Moderate	High
Atlas	---	---	---	---	Moderate	High	High
991A:							
Cisne	Abrupt textural change	16-21	---	---	High	High	High
Huey	Natric horizon	8-16	16-52	---	High	High	High
3028A:							
Jules	---	---	---	---	High	High	Low
3071A:							
Darwin	---	---	---	---	High	High	Low
3226A:							
Wirt	---	---	---	---	Moderate	High	Moderate
3284A:							
Tice	---	---	---	---	High	High	Low
3288A:							
Petrolia	---	---	---	---	High	High	Moderate
3302A:							
Ambraw	---	---	---	---	High	High	Moderate
3424A:							
Shoals	---	---	---	---	High	High	Low
3431A:							
Genesee	---	---	---	---	Moderate	High	Low
3450A:							
Brouillett	---	---	---	---	Moderate	High	Low
3597A:							
Armiesburg	---	---	---	---	High	Moderate	Low
3665A:							
Stonelick	---	---	---	---	Moderate	High	Low
7098B:							
Ade	---	---	---	---	Low	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
7131B:							
Alvin------------------	---	---	---	---	Moderate	Low	Moderate
7155A:							
Stockland--------------	---	---	---	---	Moderate	Low	Moderate
7155B:							
Stockland--------------	---	---	---	---	Moderate	Low	Moderate
7155C:							
Stockland--------------	---	---	---	---	Moderate	Low	Moderate
7175B:							
Lamont-----------------	---	---	---	---	Moderate	Low	High
7266B:							
Disco------------------	---	---	---	---	Moderate	Low	High
7286A:							
Carmi------------------	---	---	---	---	Moderate	Low	Moderate
7434B:							
Ridgway----------------	---	---	---	---	High	Moderate	Moderate
7571A:							
Whitaker---------------	---	---	---	---	High	High	Moderate
8431A:							
Genesee----------------	---	---	---	---	Moderate	Low	Low
8665A:							
Stonelick--------------	---	---	---	---	Moderate	Low	Low

Table 23.--Engineering Index Test Data

(MAX means maximum dry density; OPT, optimum moisture; LL, liquid limit; PI, plasticity index; and NP, nonplastic)

Soil name and location	Parent material	Report number	Depth	Moisture density[1] MAX	OPT	Mechanical analysis[2]: Percentage <3 inches passing sieve 1.5 in.	3/4 in.	3/8 in.	No. 4	No. 10	No. 40	No. 200	Percentage smaller than-- 0.05 mm	0.005 mm	0.002 mm	LL[3]	PI[4]	Classification AASHTO[5]	Unified[6]
			In	lb/ft^3	Pct											Pct			
Ava silt loam, 417 feet south and 582 feet west of the northeast corner of SW1/4,SW1/4 sec. 4, T. 10 N., R. 13 W. (Modal)	Loess and gritty material or drift	67-14789	11-22	106	19	---	---	---	---	---	100	98	95	36	30	41	20	A-7-6	CL
		67-14790	26-35	108	18	---	---	---	---	100	98	85	79	36	30	51	17	A-7-5	MH
		67-14791	43-64	115	15	---	---	---	100	99	95	70	64	29	25	38	26	A-6	CL
Carmi loam, 40 feet south and 48 feet west of the northeast corner of SE1/4 sec. 29, T. 9 N., R. 11 W. (Nonmodal: finer textured A horizon	Outwash sand and gravel	S72-IL-12-7-1	9-24	109	17	---	---	---	100	97	78	49	45	28	20	34	13	A-6	SC
		S72-IL-12-7-2	24-40	124	10	100	95	69	53	37	24	14	13	8	7	31	3	A-2-4	SM
		S72-IL-12-7-3	40-50	134	9	100	99	96	92	81	50	12	11	7	6	---	NP	A-1-b	SW-SM
Cisne silt loam, 120 feet north and 560 feet east of the southwest corner of SE1/4,SW1/4 sec. 34, T. 10 N., R. 14 W. (Modal)	Loess and gritty material or drift	S72-IL-12-4-1	0-6	108	16	---	---	---	---	100	97	85	76	16	7	29	8	A-4	CL
		S72-IL-12-4-2	9-14	110	17	---	---	---	100	99	93	84	79	18	8	27	10	A-4	CL
		S72-IL-12-4-3	18-30	98	22	---	---	---	100	99	97	90	86	39	31	58	35	A-7-6	CH
		S72-IL-12-4-4	56-75	113	16	---	---	---	100	99	95	78	72	25	17	37	20	A-6	CL

See footnotes at end of table.

Table 23.--Engineering Index Test Data--Continued

Soil name and location	Parent material	Report number	Depth	Moisture density[1] MAX	Moisture density[1] OPT	Mechanical analysis[2]: Percentage <3 inches passing sieve 1.5 in.	3/4 in.	3/8 in.	No. 4	No. 10	No. 40	No. 200	Percentage smaller than-- 0.05 mm	0.005 mm	0.002 mm	LL[3]	PI[4]	Classification AASHTO[5]	Classification Unified[6]
			In	lb/ft^3	Pct											Pct			
Hickory loam, 330 feet north and 250 feet west of the southeast corner of SE1/4,NW1/4 sec. 28, T. 11 N., R. 12 W. (Modal)	Glacial till	S72-IL-12-6-1	3-8	120	12	100	97	---	89	78	69	39	31	11	6	18	2	A-4	SM
		S72-IL-12-6-2	13-26	120	12	98	95	---	88	86	77	54	51	18	11	26	11	A-6	CL
		S72-IL-12-6-3	42-60	128	10	---	100	---	94	88	79	50	40	17	11	19	6	A-4	SM-SC
Miami silt loam, 175 feet north and 660 feet east of the southwest corner of SE1/4,NW1/4 sec. 26, T. 12 N., R. 14 W. (Modal)	Thin loess and glacial till	67-14786	0-7	111	15	---	---	---	99	99	96	76	64	15	11	27	5	A-4	CL-ML
		67-14787	20-32	110	17	---	100	---	99	98	95	74	72	37	31	46	28	A-7-6	CL
		67-14788	38-56	125	11	---	100	---	97	97	89	60	51	22	20	25	11	A-6	CL
Newberry silt loam, 150 feet south and 50 feet west of the northeast corner of sec. 3, T. 9 N., R. 14 W. (Modal)	Loess and gritty material or drift	S72-IL-12-5-1	0-8	108	18	---	---	---	100	99	95	83	78	26	16	30	8	A-4	CL
		S72-IL-12-5-2	22-29	102	21	---	---	---	100	98	96	90	87	43	35	57	33	A-7-6	CH
		S72-IL-12-5-3	50-65	110	17	---	---	---	100	97	94	84	82	35	27	41	19	A-7-6	CL

See footnotes at end of table.

Table 23.--Engineering Index Test Data--Continued

Soil name and location	Parent material	Report number	Depth	Moisture density[1] MAX	Moisture density[1] OPT	Mechanical analysis[2]: Percentage <3 inches passing sieve 1.5 in.	3/4 in.	3/8 in.	No. 4	No. 10	No. 40	No. 200	Percentage smaller than-- 0.05 mm	0.005 mm	0.002 mm	LL[3]	PI[4]	Classification AASHTO[5]	Classification Unified[6]
			In	lb/ft[3]	Pct											Pct			
Shoals silt loam, 825 feet south and 45 feet east of the center of sec. 11, T. 9 N., R. 14 W. (Nonmodal: more poorly drained)	Alluvium	67-14784	7-13	108	18	---	---	---	---	100	99	92	87	31	23	37	18	A-6	CL
		67-14785	23-38	112	16	---	---	---	---	100	98	87	83	29	16	31	13	A-6	CL
Weir silt loam, 840 feet south and 75 feet east of the northwest corner of sec. 14, T. 11 N., R. 11 W. (Modal)	Loess	S72-IL-12-14-2	10-18	109	17	---	---	---	---	100	97	91	86	22	16	29	7	A-4	CL-ML
		S72-IL-12-14-4	30-38	106	19	---	---	---	---	100	97	88	88	32	26	41	20	A-7-6	CL
		S72-IL-12-14-8	52-60	107	18	---	---	---	100	97	93	89	89	30	22	39	18	A-6	CL

[1] Based on AASHTO designation T99, method A.

[2] Analysis according to AASHTO designation T88. Results by this procedure frequently differ somewhat from results obtained by the soil survey procedure of the Natural Resources Conservation Service (NRCS). In the AASHTO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all material up to and including 3 inches in diameter. In the NRCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from the calculation of grain-size fractions. The mechanical analysis in this table is not suitable for use in naming textural classes of soils.

[3] Based on AASHTO designation T89.

[4] Based on AASHTO designations T90-56 and T91-54.

[5] Based on AASHTO designation M145-49.

[6] Based on the Unified Soil Classification System.

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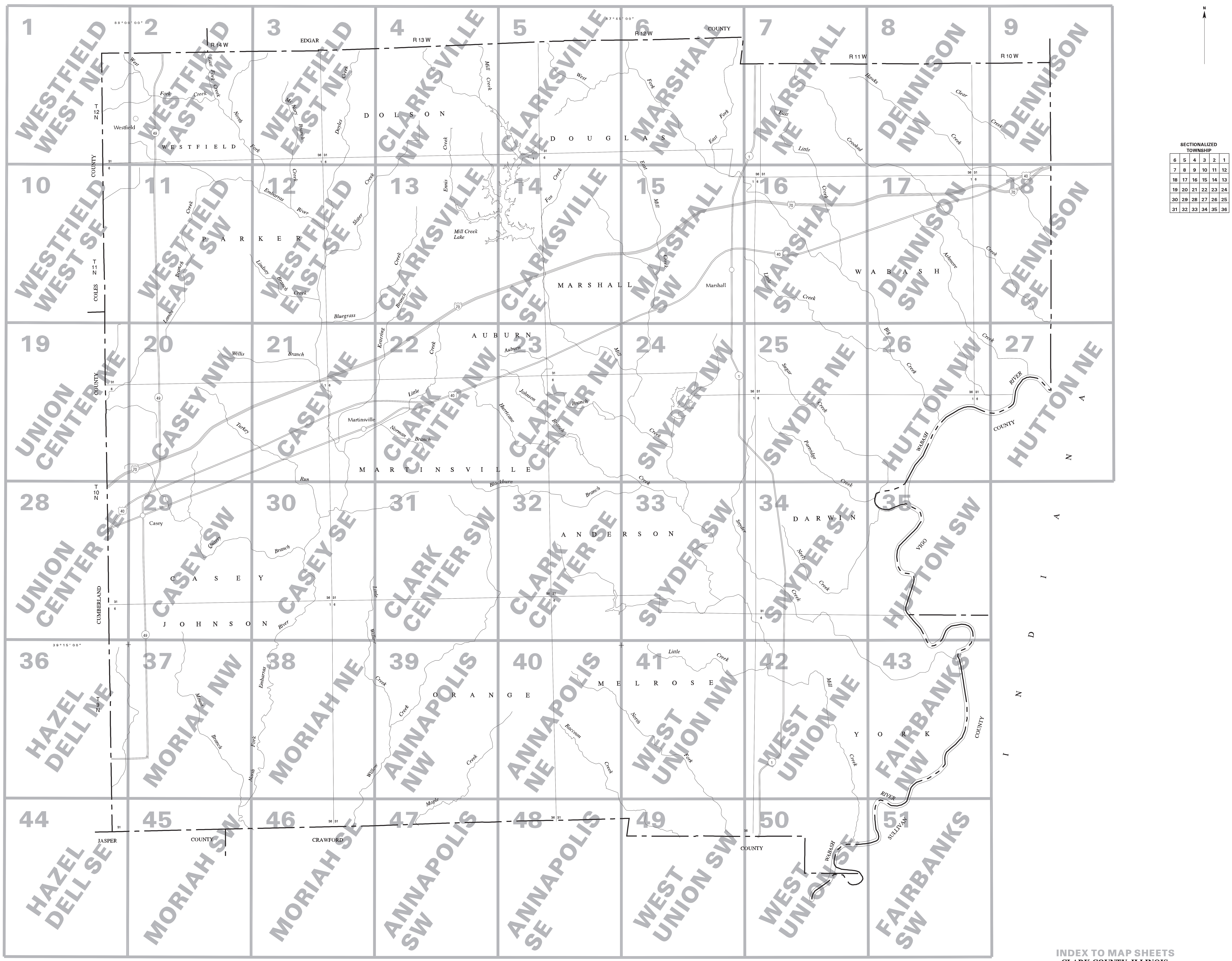

INDEX TO MAP SHEETS
CLARK COUNTY, ILLINOIS

SOIL LEGEND

Map unit symbols consist of a combination of numbers and letters. The initial numbers represent the kind of soil or miscellaneous area. An uppercase letter following these numbers indicates the class of slope. A final number of 2 following the slope class letter indicates that the soil is moderately eroded, and a final number of 3 indicates that the soil is severely eroded. Symbols that do not have a final number of 2 or 3 following a slope class letter indicate map units that are not eroded or are only slightly eroded. Symbols for miscellaneous areas do not have a slope class letter.

SYMBOL	NAME
2A	Cisne silt loam, 0 to 2 percent slopes
3A	Hoyleton silt loam, 0 to 2 percent slopes
3B	Hoyleton silt loam, 2 to 5 percent slopes
8F	Hickory silt loam, 18 to 35 percent slopes
8G	Hickory loam, 35 to 60 percent slopes
12A	Wynoose silt loam, 0 to 2 percent slopes
13A	Bluford silt loam, 0 to 2 percent slopes
13B2	Bluford silt loam, 2 to 5 percent slopes, eroded
14B	Ava silt loam, 2 to 5 percent slopes
14C2	Ava silt loam, 5 to 10 percent slopes, eroded
31A	Pierron silt loam, 0 to 2 percent slopes
48A	Ebbert silt loam, 0 to 2 percent slopes
50A	Virden silt loam, 0 to 2 percent slopes
79B	Menfro silt loam, 2 to 5 percent slopes
79D2	Menfro silt loam, 10 to 18 percent slopes, eroded
109A	Racoon silt loam, 0 to 2 percent slopes
112A	Cowden silt loam, 0 to 2 percent slopes
113A	Oconee silt loam, 0 to 2 percent slopes
113B	Oconee silt loam, 2 to 5 percent slopes
116A	Whitson silt loam, 0 to 2 percent slopes
122B	Colp silt loam, 2 to 5 percent slopes
122D2	Colp silt loam, 10 to 18 percent slopes, eroded
131B	Alvin fine sandy loam, 2 to 5 percent slopes
131C2	Alvin fine sandy loam, 5 to 10 percent slopes, eroded
132A	Starks silt loam, 0 to 2 percent slopes
134A	Camden silt loam, 0 to 2 percent slopes
134B	Camden silt loam, 2 to 5 percent slopes
134C2	Camden silt loam, 5 to 10 percent slopes, eroded
136A	Brooklyn silt loam, 0 to 2 percent slopes
138A	Shiloh silty clay loam, 0 to 2 percent slopes
149A	Brenton silt loam, 0 to 2 percent slopes
152A	Drummer silty clay loam, 0 to 2 percent slopes
164A	Stoy silt loam, 0 to 2 percent slopes
164B	Stoy silt loam, 2 to 5 percent slopes
165A	Weir silt loam, 0 to 2 percent slopes
175D2	Lamont fine sandy loam, 10 to 18 percent slopes, eroded
208A	Sexton silt loam, 0 to 2 percent slopes
214B	Hosmer silt loam, 2 to 5 percent slopes
218A	Newberry silt loam, 0 to 2 percent slopes
219A	Millbrook silt loam, 0 to 2 percent slopes
287A	Chauncey silt loam, 0 to 2 percent slopes
291B	Xenia silt loam, 2 to 5 percent slopes
315A	Channahon silt loam, 0 to 2 percent slopes
434A	Ridgway silt loam, 0 to 2 percent slopes
434B	Ridgway silt loam, 2 to 5 percent slopes
434D2	Ridgway silt loam, 10 to 18 percent slopes, eroded
453A	Muren silt loam, 0 to 2 percent slopes
453B	Muren silt loam, 2 to 5 percent slopes
618C2	Senachwine silt loam, 5 to 10 percent slopes, eroded
618C3	Senachwine clay loam, 5 to 10 percent slopes, severely eroded
618D2	Senachwine silt loam, 10 to 18 percent slopes, eroded
618D3	Senachwine clay loam, 10 to 18 percent slopes, severely eroded
802D	Orthents, loamy, 2 to 20 percent slopes
830B	Landfills
842G	Hickory-Rock outcrop complex, 35 to 60 percent slopes
864	Pits, quarries
865	Pits, gravel
927C2	Blair-Atlas silt loams, 5 to 10 percent slopes, eroded
927C3	Blair-Atlas silty clay loams, 5 to 10 percent slopes, severely eroded
946D2	Hickory-Atlas silt loams, 10 to 18 percent slopes, eroded
946D3	Hickory-Atlas clay loams, 10 to 18 percent slopes, severely eroded
991A	Cisne-Huey silt loams, 0 to 2 percent slopes
3028A	Jules silt loam, 0 to 2 percent slopes, frequently flooded
3071A	Darwin silty clay, 0 to 2 percent slopes, frequently flooded
3226A	Wirt loam, 0 to 2 percent slopes, frequently flooded
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded
3288A	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded
3302A	Ambraw clay loam, 0 to 2 percent slopes, frequently flooded
3424A	Shoals silt loam, 0 to 2 percent slopes, frequently flooded
3431A	Genesee silt loam, 0 to 2 percent slopes, frequently flooded
3450A	Brouillett silt loam, 0 to 2 percent slopes, frequently flooded
3597A	Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded
3665A	Stonelick loam, 0 to 2 percent slopes, frequently flooded
7098B	Ade loamy sand, 2 to 5 percent slopes, rarely flooded
7131B	Alvin fine sandy loam, 2 to 5 percent slopes, rarely flooded
7155A	Stockland gravelly sandy loam, 0 to 2 percent slopes, rarely flooded
7155B	Stockland gravelly sandy loam, 2 to 5 percent slopes, rarely flooded
7155C	Stockland gravelly sandy loam, 5 to 10 percent slopes, rarely flooded
7175B	Lamont fine sandy loam, 2 to 5 percent slopes, rarely flooded
7266B	Disco sandy loam, 2 to 5 percent slopes, rarely flooded
7286A	Carmi sandy loam, 0 to 2 percent slopes, rarely flooded
7434B	Ridgway silt loam, 2 to 5 percent slopes, rarely flooded
7571A	Whitaker loam, 0 to 2 percent slopes, rarely flooded
8431A	Genesee sandy loam, 0 to 2 percent slopes, occasionally flooded
8665A	Stonelick fine sandy loam, 0 to 2 percent slopes, occasionally flooded
M-W	Miscellaneous water
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state, or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park)
- Land grant
- Limit of soil survey (label) and/or denied access area
- Field sheet matchline & neatline
- Previously Published Survey

OTHER BOUNDARY (label)

- Airport, airfield
- Cemetery
- City/county park

STATE COORDINATE TICK
1 890 000 FEET

LAND DIVISION CORNER
(section and land grants)

GEOGRAPHIC COORDINATE TICK

TRANSPORTATION

- Divided roads
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate — 173 — 79 345
- Federal — 287 — 410 224
- State — 52 — 52 347
- County, farm or ranch — 1283

RAILROAD

POWER TRANSMISSION LINE

PIPELINE

FENCE

LEVEES

- Without road
- With road
- With railroad
- Single side slope (showing actual feature location)

DAMS

- Medium or Small — W

LANDFORM FEATURES

- Prominent hill or peak
- Soil Sample Site

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Other Religion (label) — Mt Carmel
- Located object (label) — Ranger Station
- Tank (label) — Petroleum
- Lookout Tower
- Oil and/or Natural Gas Wells
- Windmill
- Lighthouse

HYDROGRAPHIC FEATURES

STREAMS

- Perennial, double line
- Perennial, single line — Label only
- Intermittent — Label only
- Drainage end — Label only

DRAINAGE AND IRRIGATION

- Double-line canal (label) — CANAL
- Perennial drainage and/or irrigation ditch — Label only
- Intermittent drainage and/ or irrigation ditch — Label only

SMALL LAKES, PONDS AND RESERVOIRS

- Perennial water
- Miscellaneous water
- Flood pool line — FLOOD POOL LINE

MISCELLANEOUS WATER FEATURES

- Spring
- Well, artesian
- Well, irrigation

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS — 75C 79C2

LANDFORM FEATURES

ESCARPMENTS

- Bedrock
- Other than bedrock
- Short steep slope
- Gully
- Depression, closed
- Sinkhole

EXCAVATIONS

PITS

- Borrow pits
- Gravel pit
- Mine or quarry
- Landfill

MISCELLANEOUS SURFACE FEATURES

- Blowout
- Clay spot
- Gravelly spot
- Lava flow
- Marsh or swamp
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip
- Sodic spot
- Spoil area
- Stony spot
- Very stony spot
- Wet spot

AD HOC FEATURES

- Oil brine spot

Descriptions of Special Features

Name	Description	Label
Blowout	A small saucer-, cup-, or trough-shaped hollow or depression formed by wind erosion on a preexisting sand deposit. Typically 0.2 acre to 2.0 acres.	BLO
Borrow pit	An open excavation from which soil and underlying material have been removed, usually for construction purposes. Typically 0.2 acre to 2.0 acres.	BPI
Calcareous spot	An area in which the soil contains carbonates in the surface layer. The surface layer of the named soils in the surrounding map unit is noncalcareous. Typically 0.5 acre to 2.0 acres.	CSP
Clay spot	A spot where the surface layer is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser. Typically 0.2 acre to 2.0 acres.	CLA
Depression, closed	A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage. Typically 0.2 acre to 2.0 acres.	DEP
Disturbed soil spot	An area in which the soil has been removed and materials redeposited as a result of human activity. Typically 0.25 acre to 2.0 acres.	DSS
Dumps	Areas of nonsoil material that support little or no vegetation. Typically 0.5 acre to 2.0 acres.	DMP
Escarpment, bedrock	A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.	ESB
Escarpment, nonbedrock	A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.	ESO
Glacial till spot	An exposure of glacial till at the surface of the earth. Typically 0.25 acre to 2.0 acres.	GLA
Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically 0.2 acre to 2.0 acres.	GPI
Gravelly spot	A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments. Typically 0.2 acre to 2.0 acres.	GRA

Name	Description	Label
Gray spot	A spot in which the surface layer is gray in areas where the subsurface layer of the named soils in the surrounding map unit are darker. Typically 0.25 acre to 2.0 acres.	GSP
Gully	A small channel with steep sides cut by running water through which water ordinarily runs only after a rain or after melting of snow or ice. It generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage.	GUL
Iron bog	An accumulation of iron in the form of nodules, concretions, or soft masses on the surface or near the surface of soils. Typically 0.2 acre to 2.0 acres.	BFE
Landfill	An area of accumulated waste products of human habitation, either above or below natural ground level. Typically 0.2 acre to 2.0 acres.	LDF
Levee	An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.	LVS
Marsh or swamp	A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Typically 0.2 acre to 2.0 acres.	MAR
Mine or quarry	An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines. Typically 0.2 acre to 2.0 acres.	MPI
Mine subsided area	An area that is lower than the soils in the surrounding map unit because of subsurface coal mining. Typically 0.25 acre to 3.0 acres.	MSA
Miscellaneous water	A small, constructed body of water that is used for industrial, sanitary, or mining applications and that contains water most of the year. Typically 0.2 acre to 2.0 acres.	MIS
Muck spot	An area that occurs within an area of poorly drained or very poorly drained soil and that has a histic epipedon or an organic surface layer. The symbol is used only in map units consisting of mineral soil. Typically 0.2 acre to 2.0 acres.	MUC
Oil brine spot	An area of soil that has been severely damaged by the accumulation of oil brine, with or without liquid oily wastes. The area is typically barren but may have a vegetative cover of salt-tolerant plants. Typically 0.2 acre to 2.0 acres.	OBS
Perennial water	A small, natural or constructed lake, pond, or pit that contains water most of the year. Typically 0.2 acre to 2.0 acres.	WAT

Name	Description	Label
Rock outcrop	An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit. Typically 0.2 acre to 2.0 acres.	ROC
Saline spot	An area where the surface layer has an electrical conductivity of 8 mmhos/cm-l more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm-l or less. Typically 0.2 acre to 2.0 acres.	SAL
Sandy spot	A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer. Typically 0.2 acre to 2.0 acres.	SAN
Severely eroded spot	An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which “severely eroded,” “very severely eroded,” or “gullied” is part of the map unit name. Typically 0.2 acre to 2.0 acres.	ERO
Short steep slope	A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.	SLP
Sinkhole	A closed depression formed either by solution of the surficial rock or by collapse of underlying caves. Typically 0.2 acre to 2.0 acres.	SNK
Slide or slip	A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces. Typically 0.2 acre to 2.0 acres.	SLI
Sodic spot	An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less. Typically 0.2 acre to 2.0 acres.	SOD
Spoil area	A pile of earthy materials, either smoothed or uneven, resulting from human activity. Typically 0.2 acre to 2.0 acres.	SPO
Stony spot	A spot where 0.01 to 0.1 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones. Typically 0.2 acre to 2.0 acres.	STN
Unclassified water	A small, natural or manmade lake, pond, or pit that contains water, of an unspecified nature, most of the year. Typically 0.2 acre to 2.0 acres.	UWT

Name	Description	Label
Very stony spot	A spot where 0.1 to 3.0 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surface cover of the surrounding soil is less than 0.01 percent stones. Typically 0.2 acre to 2.0 acres.	STV
Wet depression	A shallow, concave area within an area of poorly drained or very poorly drained soils in which water is ponded for intermittent periods. The concave area is saturated for appreciably longer periods of time than the surrounding soil. Typically 0.2 acre to 2.0 acres.	WDP
Wet spot	A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit. Typically 0.2 acres to 2.0 acres.	WET

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
WESTFIELD WEST NE QUADRANGLE
SHEET NUMBER 1 OF 51

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	B	C
D		2
E	10	11

A ASHMORE SW
B ASHMORE SE
C KANSAS SW
D WESTFIELD WEST NW
2 WESTFIELD EAST NW
E WESTFIELD WEST SW
10 WESTFIELD WEST SE
11 WESTFIELD EAST SW

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3.75 MINUTE SERIES
SHEET NUMBER 1 OF 51

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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CLARK COUNTY, ILLINOIS
WESTFIELD EAST NW QUADRANGLE
SHEET NUMBER 2 OF 51

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

A	B	C
1		3
10	11	12

A ASHMORE SE
B KANSAS SW
C KANSAS SE
1 WESTFIELD WEST NE
3 WESTFIELD EAST NE
10 WESTFIELD WEST SE
11 WESTFIELD EAST SW
12 WESTFIELD EAST SE

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WESTFIELD EAST NW, ILLINOIS
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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
WESTFIELD EAST NE QUADRANGLE
SHEET NUMBER 3 OF 51

87° 56′15″ | 87° 52′30″
39° 30′00″ | 39° 30′00″

39° 26′15″ | 39° 26′15″
87° 56′15″ | 87° 52′30″

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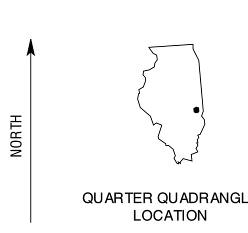

QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 | 0 | 0.5
FEET: 500 | 0 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500
KILOMETERS: 0.5 | 0 | 0.5

A	B	C
2		4
11	12	13

A KANSAS SW
B KANSAS SE
C GRANDVIEW SW
2 WESTFIELD EAST NW
4 CLARKSVILLE NW
11 WESTFIELD EAST SW
12 WESTFIELD EAST SE
13 CLARKSVILLE SW

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES 0.5 – 0 – 0.5

FEET 500 – 0 – 500 – 1000 – 1500 – 2000 – 2500 – 3000 – 3500

KILOMETERS 0.5 – 0 – 0.5

A	B	C
3		5
12	13	14

A KANSAS SE
B GRANDVIEW SW
C GRANDVIEW SE
3 WESTFIELD EAST NE
5 CLARKSVILLE NE
12 WESTFIELD EAST SE
13 CLARKSVILLE SW
14 CLARKSVILLE SE

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CLARKSVILLE NW, ILLINOIS
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CLARK COUNTY, ILLINOIS
CLARKSVILLE NE QUADRANGLE
SHEET NUMBER 5 OF 51

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	B	C
4		6
13	14	15

A GRANDVIEW SW
B GRANDVIEW SE
C PARIS SOUTH SW
4 CLARKSVILLE NW
6 MARSHALL NW
13 CLARKSVILLE SW
14 CLARKSVILLE SE
15 MARSHALL SW

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CLARKSVILLE NE, ILLINOIS
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CLARK COUNTY, ILLINOIS
MARSHALL NW QUADRANGLE
SHEET NUMBER 6 OF 51

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	B	C
5		7
14	15	16

A GRANDVIEW SE
B PARIS SOUTH SW
C PARIS SOUTH SE
5 CLARKSVILLE NE
7 MARSHALL NE
14 CLARKSVILLE SE
15 MARSHALL SW
16 MARSHALL SE

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CLARK COUNTY, ILLINOIS
MARSHALL NE QUADRANGLE
SHEET NUMBER 7 OF 51

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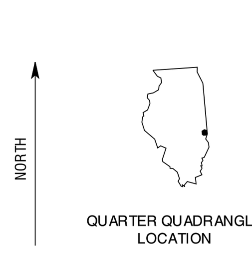
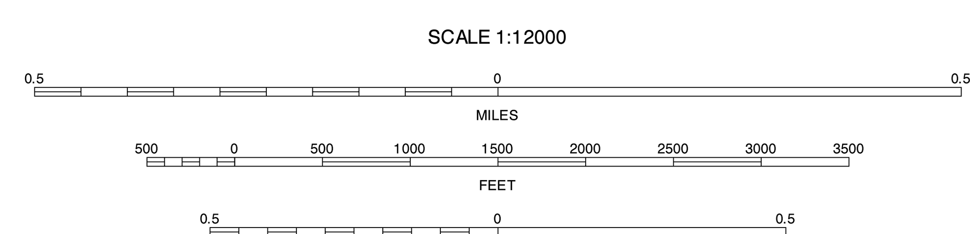


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	B	C
6		8
15	16	17

A PARIS SOUTH SW
B PARIS SOUTH SE
C SANDFORD SW
6 MARSHALL NW
8 DENNISON NW
15 MARSHALL SW
16 MARSHALL SE
17 DENNISON SW

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CLARK COUNTY, ILLINOIS
DENNISON NW QUADRANGLE
SHEET NUMBER 8 OF 51

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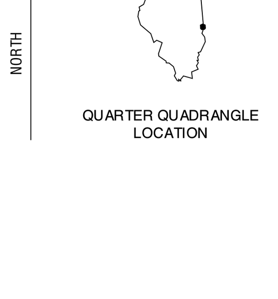

SCALE 1:12000

0.5 — 0 — 0.5 MILES

500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500 FEET

0.5 — 0 — 0.5 KILOMETERS

A	B	C
7		9
16	17	18

A PARIS SOUTH SE
B SANDFORD SW
C SANDFORD SE
7 MARSHALL NE
9 DENNISON NE
16 MARSHALL SE
17 DENNISON SW
18 DENNISON SE

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CLARK COUNTY, ILLINOIS
DENNISON NE QUADRANGLE
SHEET NUMBER 9 OF 51

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	B	C	A SANDFORD SW
8		D	B SANDFORD SE
17	18	E	C NEW GOSHEN SW
			8 DENNISON NW
			D TERRE HAUTE NW
			17 DENNISON SW
			18 DENNISON SE
			E TERRE HAUTE SW

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CLARK COUNTY, ILLINOIS
WESTFIELD WEST SE QUADRANGLE
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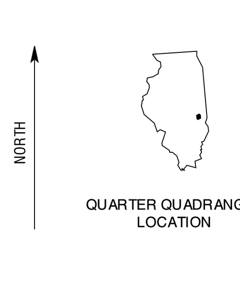
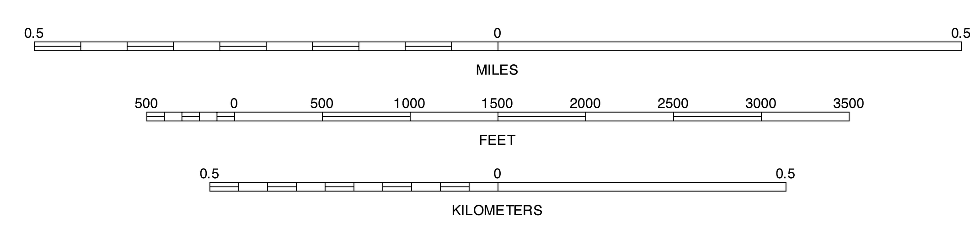


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	1	2
B		11
C	19	20

A WESTFIELD WEST NW
1 WESTFIELD WEST NE
2 WESTFIELD EAST NW
B WESTFIELD WEST SW
11 WESTFIELD EAST SW
C UNION CENTER NW
19 UNION CENTER NE
20 CASEY NW

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CLARK COUNTY, ILLINOIS
WESTFIELD EAST SW QUADRANGLE
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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

1	2	3
10		12
19	20	21

1 WESTFIELD WEST NE
2 WESTFIELD EAST NW
3 WESTFIELD EAST NE
10 WESTFIELD WEST SE
12 WESTFIELD EAST SE
19 UNION CENTER NE
20 CASEY NW
21 CASEY NE

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CLARK COUNTY, ILLINOIS
WESTFIELD EAST SE QUADRANGLE
SHEET NUMBER 12 OF 51

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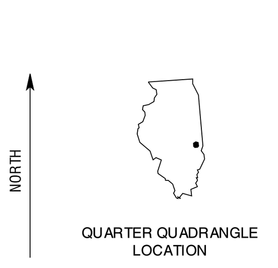

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

2	3	4
11		13
20	21	22

2 WESTFIELD EAST NW
3 WESTFIELD EAST NE
4 CLARKSVILLE NW
11 WESTFIELD EAST SW
13 CLARKSVILLE SW
20 CASEY NW
21 CASEY NE
22 CLARK CENTER NW

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CLARK COUNTY, ILLINOIS
CLARKSVILLE SW QUADRANGLE
SHEET NUMBER 13 OF 51

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

3	4	5
12		14
21	22	23

3 WESTFIELD EAST NE
4 CLARKSVILLE NW
5 CLARKSVILLE NE
12 WESTFIELD EAST SE
14 CLARKSVILLE SE
21 CASEY NE
22 CLARK CENTER NW
23 CLARK CENTER NE

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CLARK COUNTY, ILLINOIS
CLARKSVILLE SE QUADRANGLE
SHEET NUMBER 14 OF 51

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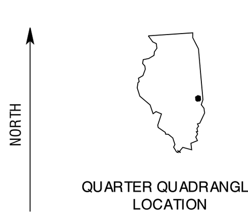
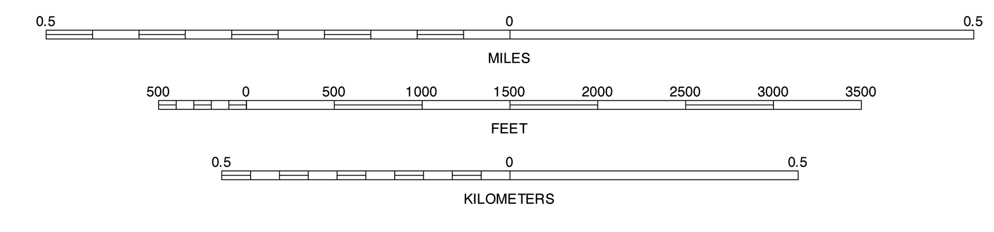


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



4	5	6
13		15
22	23	24

4 CLARKSVILLE NW
5 CLARKSVILLE NE
6 MARSHALL NW
13 CLARKSVILLE SW
15 MARSHALL SW
22 CLARK CENTER NW
23 CLARK CENTER NE
24 SNYDER NW

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CLARKSVILLE SE, ILLINOIS

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CLARK COUNTY, ILLINOIS
MARSHALL SW QUADRANGLE
SHEET NUMBER 15 OF 51

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

5	6	7
14		16
23	24	25

5 CLARKSVILLE NE
6 MARSHALL NW
7 MARSHALL NE
14 CLARKSVILLE SE
16 MARSHALL SE
23 CLARK CENTER NE
24 SNYDER NW
25 SNYDER NE

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MARSHALL SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 15 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
MARSHALL SE QUADRANGLE
SHEET NUMBER 16 OF 51

87° 41′15″ R. 12 W. | R. 11 W. 87° 37′30″

39° 26′15″ 39° 26′15″

39° 22′30″ 39° 22′30″

87° 41′15″ R. 12 W. | R. 11 W. 87° 37′30″

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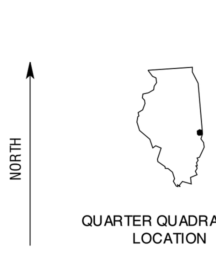
North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

6	7	8
15		17
24	25	26

6 MARSHALL NW
7 MARSHALL NE
8 DENNISON NW
15 MARSHALL SW
17 DENNISON SW
24 SNYDER NW
25 SNYDER NE
26 HUTTON NW

INDEX TO ADJOINING 3.75 MAPS

MARSHALL SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 16 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
DENNISON SW QUADRANGLE
SHEET NUMBER 17 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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North American Datum of 1983 (NAD83). GRS-80 Spheroid
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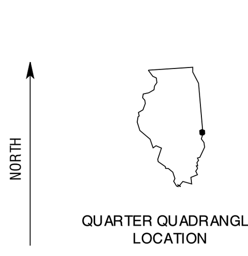

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES · FEET · KILOMETERS

7	8	9
16		18
25	26	27

7 MARSHALL NE
8 DENNISON NW
9 DENNISON NE
16 MARSHALL SE
18 DENNISON SE
25 SNYDER NE
26 HUTTON NW
27 HUTTON NE

INDEX TO ADJOINING 3.75 MAPS

DENNISON SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 17 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
DENNISON SE QUADRANGLE
SHEET NUMBER 18 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

8	9	A
17		B
26	27	C

8 DENNISON NW
9 DENNISON NE
A TERRE HAUTE NW
17 DENNISON SW
B TERRE HAUTE SW
26 HUTTON NW
27 HUTTON NE
C PIMENTO NW

INDEX TO ADJOINING 3.75 MAPS

DENNISON SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 18 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
UNION CENTER NE QUADRANGLE
SHEET NUMBER 19 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
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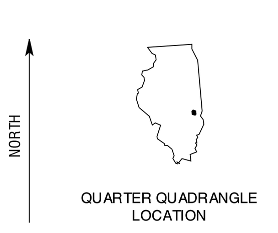
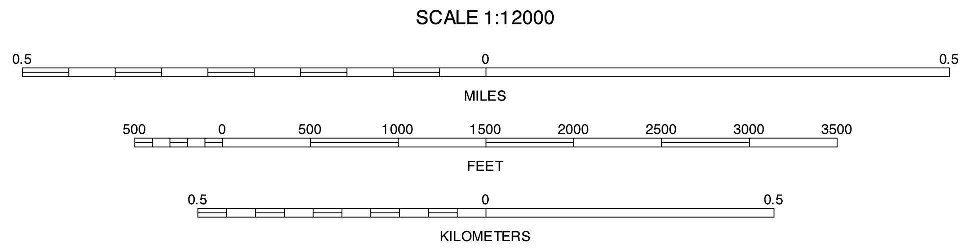


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	10	11
B		20
C	28	29

A WESTFIELD WEST SW
10 WESTFIELD WEST SE
11 WESTFIELD EAST SW
B UNION CENTER NW
20 CASEY NW
C UNION CENTER SW
28 UNION CENTER SE
29 CASEY SW

INDEX TO ADJOINING 3.75 MAPS

UNION CENTER NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 19 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
CASEY NW QUADRANGLE
SHEET NUMBER 20 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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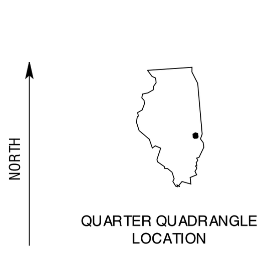
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

10	11	12
19		21
28	29	30

10 WESTFIELD WEST SE
11 WESTFIELD EAST SW
12 WESTFIELD EAST SE
19 UNION CENTER NE
21 CASEY NE
28 UNION CENTER SE
29 CASEY SW
30 CASEY SE

INDEX TO ADJOINING 3.75 MAPS

CASEY NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 20 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
CASEY NE QUADRANGLE
SHEET NUMBER 21 OF 51

87°56′15″ R. 14 W. | R. 13 W. 87°52′30″

39°22′30″

39°18′45″

87°56′15″ R. 14 W. | R. 13 W. 87°52′30″

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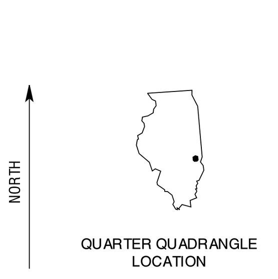
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

11	12	13
20		22
29	30	31

11 WESTFIELD EAST SW
12 WESTFIELD EAST SE
13 CLARKSVILLE SW
20 CASEY NW
22 CLARK CENTER NW
29 CASEY SW
30 CASEY SE
31 CLARK CENTER SW

INDEX TO ADJOINING 3.75 MAPS

CASEY NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 21 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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CLARK COUNTY, ILLINOIS
CLARK CENTER NW QUADRANGLE
SHEET NUMBER 22 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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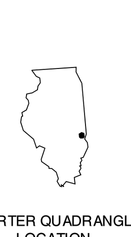
North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

12	13	14
21		23
30	31	32

12 WESTFIELD EAST SE
13 CLARKSVILLE SW
14 CLARKSVILLE SE
21 CASEY NE
23 CLARK CENTER NE
30 CASEY SE
31 CLARK CENTER SW
32 CLARK CENTER SE

INDEX TO ADJOINING 3.75 MAPS

CLARK CENTER NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 22 OF 51

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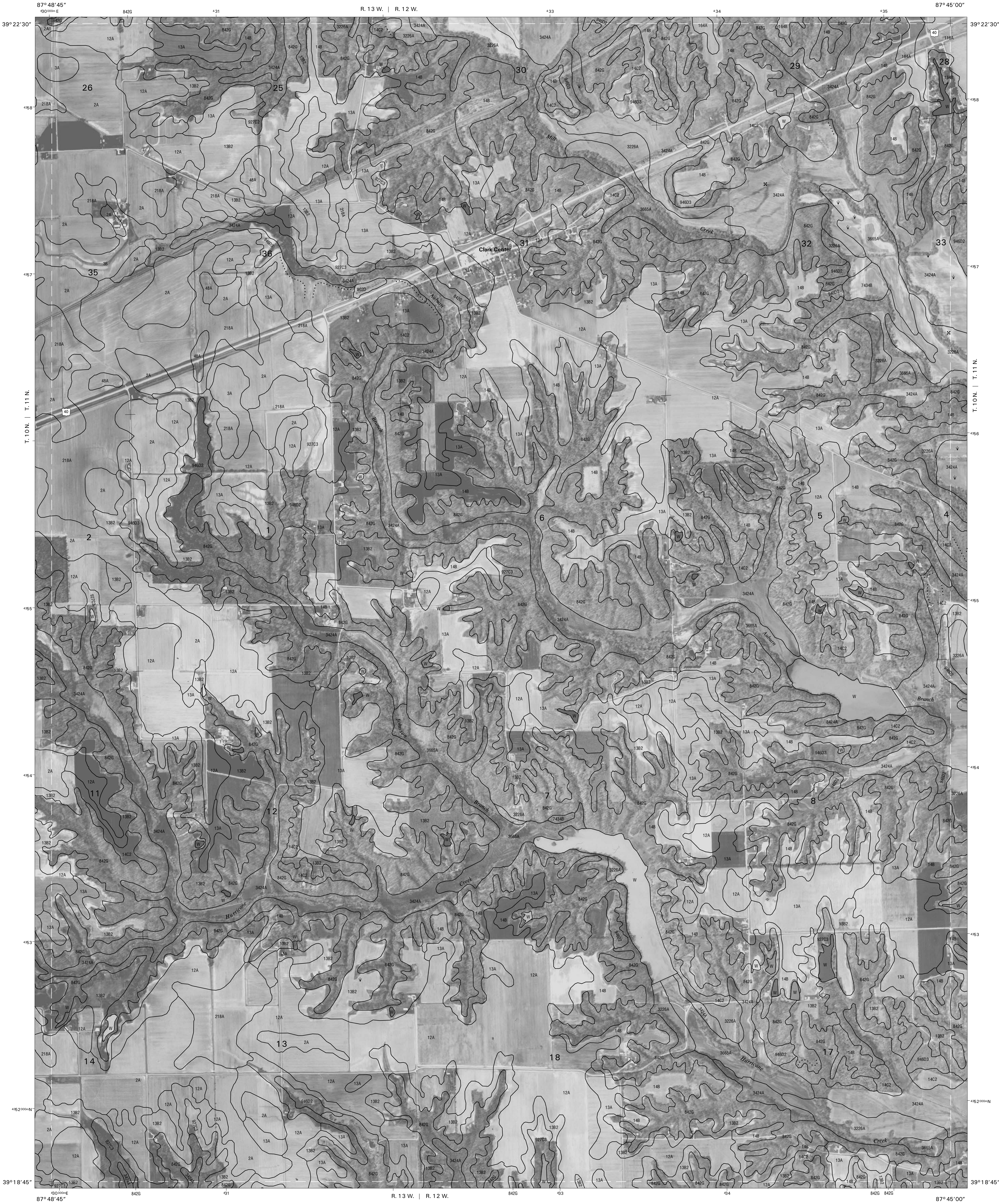
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
CLARK CENTER NE QUADRANGLE
SHEET NUMBER 23 OF 51



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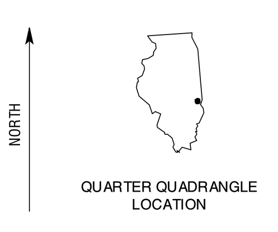
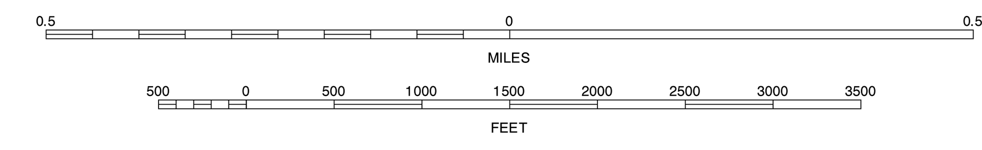


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



13	14	15
22		24
31	32	33

13 CLARKSVILLE SW
14 CLARKSVILLE SE
15 MARSHALL SW
22 CLARK CENTER NW
24 SNYDER NW
31 CLARK CENTER SW
32 CLARK CENTER SE
33 SNYDER SW

INDEX TO ADJOINING 3.75 MAPS

CLARK CENTER NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 23 OF 51

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UNITED STATES
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NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
SNYDER NW QUADRANGLE
SHEET NUMBER 24 OF 51

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

14	15	16
23		25
32	33	34

14 CLARKSVILLE SE
15 MARSHALL SW
16 MARSHALL SE
23 CLARK CENTER NE
25 SNYDER NE
32 CLARK CENTER SE
33 SNYDER SW
34 SNYDER SE

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SNYDER NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 24 OF 51

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
SNYDER NE QUADRANGLE
SHEET NUMBER 25 OF 51

87° 41′15″ R. 12 W. | R. 11 W. 87° 37′30″

39° 22′30″ 39° 22′30″

39° 18′45″ 39° 18′45″

87° 41′15″ R. 12 W. | R. 11 W. 87° 37′30″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
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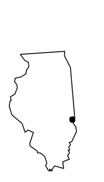
NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

15	16	17
24		26
33	34	35

15 MARSHALL SW
16 MARSHALL SE
17 DENNISON SW
24 SNYDER NW
26 HUTTON NW
33 SNYDER SW
34 SNYDER SE
35 HUTTON SW

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SNYDER NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 25 OF 51

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UNITED STATES
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NATURAL RESOURCES CONSERVATION SERVICE

87° 37′30″ 87° 33′45″
39° 22′30″ 39° 22′30″
R. 11 W. | R. 10 W.

T. 10 N. | T. 11 N.
39° 18′45″ 39° 18′45″
87° 37′30″ R. 11 W. 87° 33′45″

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES 0.5 0 0.5
FEET 500 0 500 1000 1500 2000 2500 3000 3500
KILOMETERS 0.5 0 0.5

16	17	18
25		27
34	35	A

16 MARSHALL SE
17 DENNISON SW
18 DENNISON SE
25 SNYDER NE
27 HUTTON NE
34 SNYDER SE
35 HUTTON SW
A HUTTON SE

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HUTTON NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 26 OF 51

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UNITED STATES
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CLARK COUNTY, ILLINOIS
HUTTON NE QUADRANGLE
SHEET NUMBER 27 OF 51

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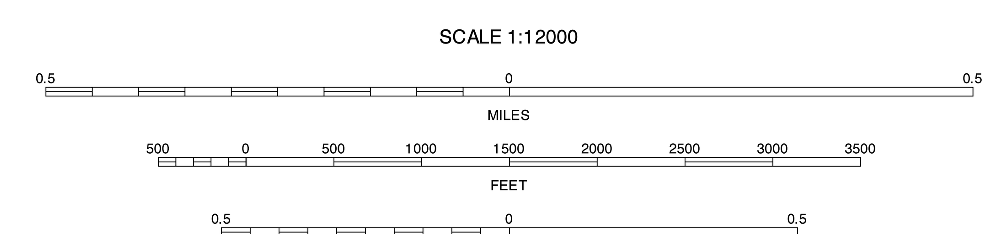
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE
LOCATION

SCALE 1:12000



17	18	A
26		B
35	C	D

17 DENNISON SW
18 DENNISON SE
A TERRE HAUTE SW
26 HUTTON NW
B PIMENTO NW
35 HUTTON SW
C HUTTON SE
D PIMENTO SW

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HUTTON NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 27 OF 51

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UNITED STATES
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NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
UNION CENTER SE QUADRANGLE
SHEET NUMBER 28 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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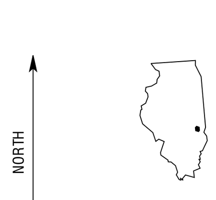
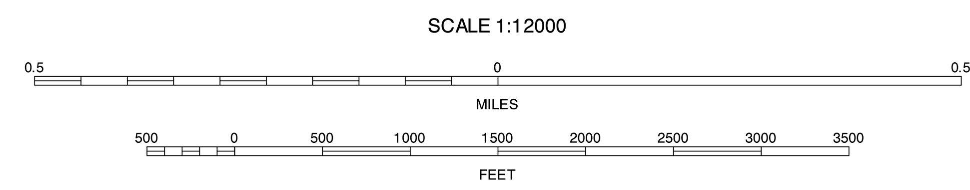
North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	19	20
B		29
C	36	37

A UNION CENTER NW
19 UNION CENTER NE
20 CASEY NW
B UNION CENTER SW
29 CASEY SW
C HAZEL DELL NW
36 HAZEL DELL NE
37 MORIAH NW

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UNION CENTER SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 28 OF 51

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UNITED STATES
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NATURAL RESOURCES CONSERVATION SERVICE

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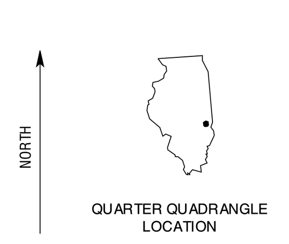
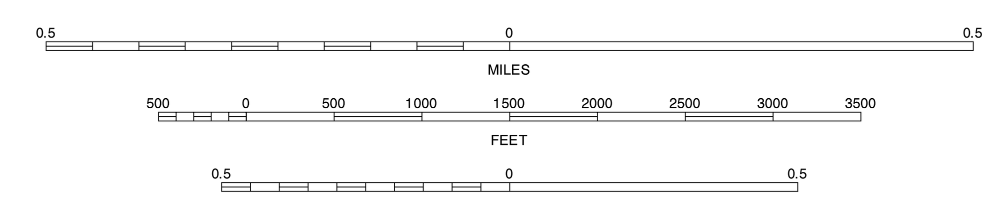


SCALE 1:12000



19	20	21
28		30
36	37	38

19 UNION CENTER NE
20 CASEY NW
21 CASEY NE
28 UNION CENTER SE
30 CASEY SE
36 HAZEL DELL NE
37 MORIAH NW
38 MORIAH NE

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CASEY SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 29 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
CASEY SE QUADRANGLE
SHEET NUMBER 30 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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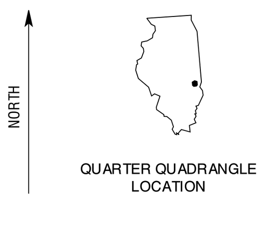
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5 MILES

500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500 FEET

0.5 — 0 — 0.5 KILOMETERS

20	21	22
29		31
37	38	39

20 CASEY NW
21 CASEY NE
22 CLARK CENTER NW
29 CASEY SW
31 CLARK CENTER SW
37 MORIAH NW
38 MORIAH NE
39 ANNAPOLIS NW

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CASEY SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 30 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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CLARK COUNTY, ILLINOIS
CLARK CENTER SW QUADRANGLE
SHEET NUMBER 31 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

21	22	23
30		32
38	39	40

21 CASEY NE
22 CLARK CENTER NW
23 CLARK CENTER NE
30 CASEY SE
32 CLARK CENTER SE
38 MORIAH NE
39 ANNAPOLIS NW
40 ANNAPOLIS NE

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CLARK CENTER SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 31 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
CLARK CENTER SE QUADRANGLE
SHEET NUMBER 32 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

22	23	24
31		33
39	40	41

22 CLARK CENTER NW
23 CLARK CENTER NE
24 SNYDER NW
31 CLARK CENTER SW
33 SNYDER SW
39 ANNAPOLIS NW
40 ANNAPOLIS NE
41 WEST UNION NW

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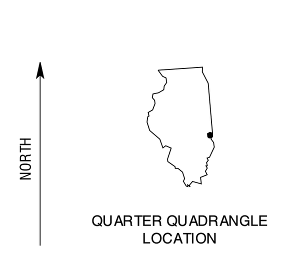
CLARK CENTER SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 32 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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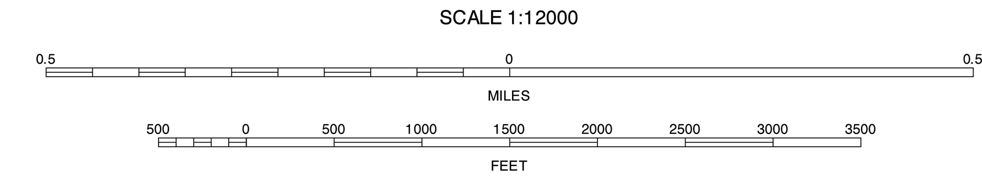

23	24	25
32		34
40	41	42

23 CLARK CENTER NE
24 SNYDER NW
25 SNYDER NE
32 CLARK CENTER SE
34 SNYDER SE
40 ANNAPOLIS NE
41 WEST UNION NW
42 WEST UNION NE

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SNYDER SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 33 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

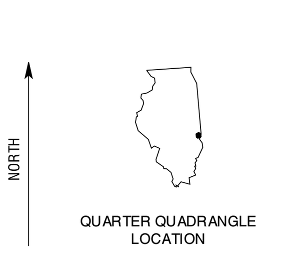
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
SNYDER SE QUADRANGLE
SHEET NUMBER 34 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

24	25	26
33		35
41	42	43

24 SNYDER NW
25 SNYDER NE
26 HUTTON NW
33 SNYDER SW
35 HUTTON SW
41 WEST UNION NW
42 WEST UNION NE
43 FAIRBANKS NW

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SNYDER SE, ILLINOIS
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Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

25	26	27
34		A
42	43	B

25 SNYDER NE
26 HUTTON NW
27 HUTTON NE
34 SNYDER SE
A HUTTON SE
42 WEST UNION NE
43 FAIRBANKS NW
B FAIRBANKS NE

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HUTTON SW, ILLINOIS

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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CLARK COUNTY, ILLINOIS
HAZEL DELL NE QUADRANGLE
SHEET NUMBER 36 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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1000-meter ticks: Universal Transverse Mercator, zone 16.
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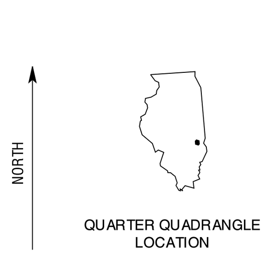

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

A	28	29
B		37
C	44	45

A UNION CENTER SW
28 UNION CENTER SE
29 CASEY SW
B HAZEL DELL NW
37 MORIAH NW
C HAZEL DELL SW
44 HAZEL DELL SE
45 MORIAH SW

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HAZEL DELL NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
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CLARK COUNTY, ILLINOIS
MORIAH NW QUADRANGLE
SHEET NUMBER 37 OF 51

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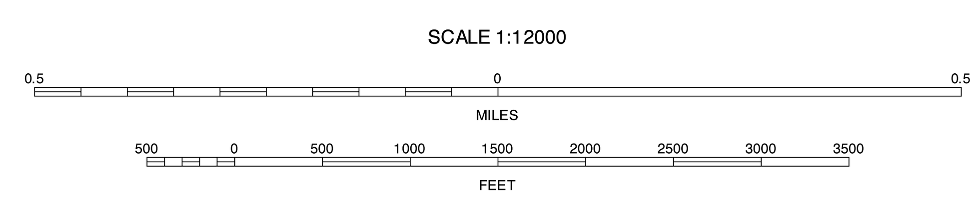
North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

SCALE 1:12000



28	29	30
36		38
44	45	46

28 UNION CENTER SE
29 CASEY SW
30 CASEY SE
36 HAZEL DELL NE
38 MORIAH NE
44 HAZEL DELL SE
45 MORIAH SW
46 MORIAH SE

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MORIAH NW, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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CLARK COUNTY, ILLINOIS
MORIAH NE QUADRANGLE
SHEET NUMBER 38 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

29	30	31
37		39
45	46	47

29 CASEY SW
30 CASEY SE
31 CLARK CENTER SW
37 MORIAH NW
39 ANNAPOLIS NW
45 MORIAH SW
46 MORIAH SE
47 ANNAPOLIS SW

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MORIAH NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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CLARK COUNTY, ILLINOIS
ANNAPOLIS NW QUADRANGLE
SHEET NUMBER 39 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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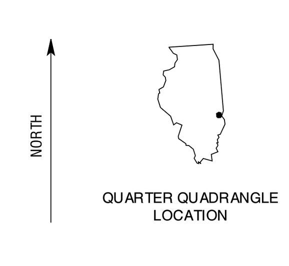
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES (0.5 — 0 — 0.5)

FEET (500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500)

KILOMETERS (0.5 — 0 — 0.5)

30	31	32
38		40
46	47	48

30 CASEY SE
31 CLARK CENTER SW
32 CLARK CENTER SE
38 MORIAH NE
40 ANNAPOLIS NE
46 MORIAH SE
47 ANNAPOLIS SW
48 ANNAPOLIS SE

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ANNAPOLIS NW, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
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CLARK COUNTY, ILLINOIS
ANNAPOLIS NE QUADRANGLE
SHEET NUMBER 40 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

31	32	33
39		41
47	48	49

31 CLARK CENTER SW
32 CLARK CENTER SE
33 SNYDER SW
39 ANNAPOLIS NW
41 WEST UNION NW
47 ANNAPOLIS SW
48 ANNAPOLIS SE
49 WEST UNION SW

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ANNAPOLIS NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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CLARK COUNTY, ILLINOIS
WEST UNION NW QUADRANGLE
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This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

32	33	34
40		42
48	49	50

32 CLARK CENTER SE
33 SNYDER SW
34 SNYDER SE
40 ANNAPOLIS NE
42 WEST UNION NE
48 ANNAPOLIS SE
49 WEST UNION SW
50 WEST UNION SE

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DEPARTMENT OF AGRICULTURE
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CLARK COUNTY, ILLINOIS
WEST UNION NE QUADRANGLE
SHEET NUMBER 42 OF 51

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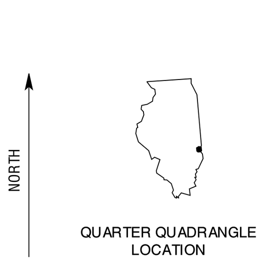

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5 MILES

500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500 FEET

0.5 — 0 — 0.5 KILOMETERS

33	34	35
41		43
49	50	51

33 SNYDER SW
34 SNYDER SE
35 HUTTON SW
41 WEST UNION NW
43 FAIRBANKS NW
49 WEST UNION SW
50 WEST UNION SE
51 FAIRBANKS SW

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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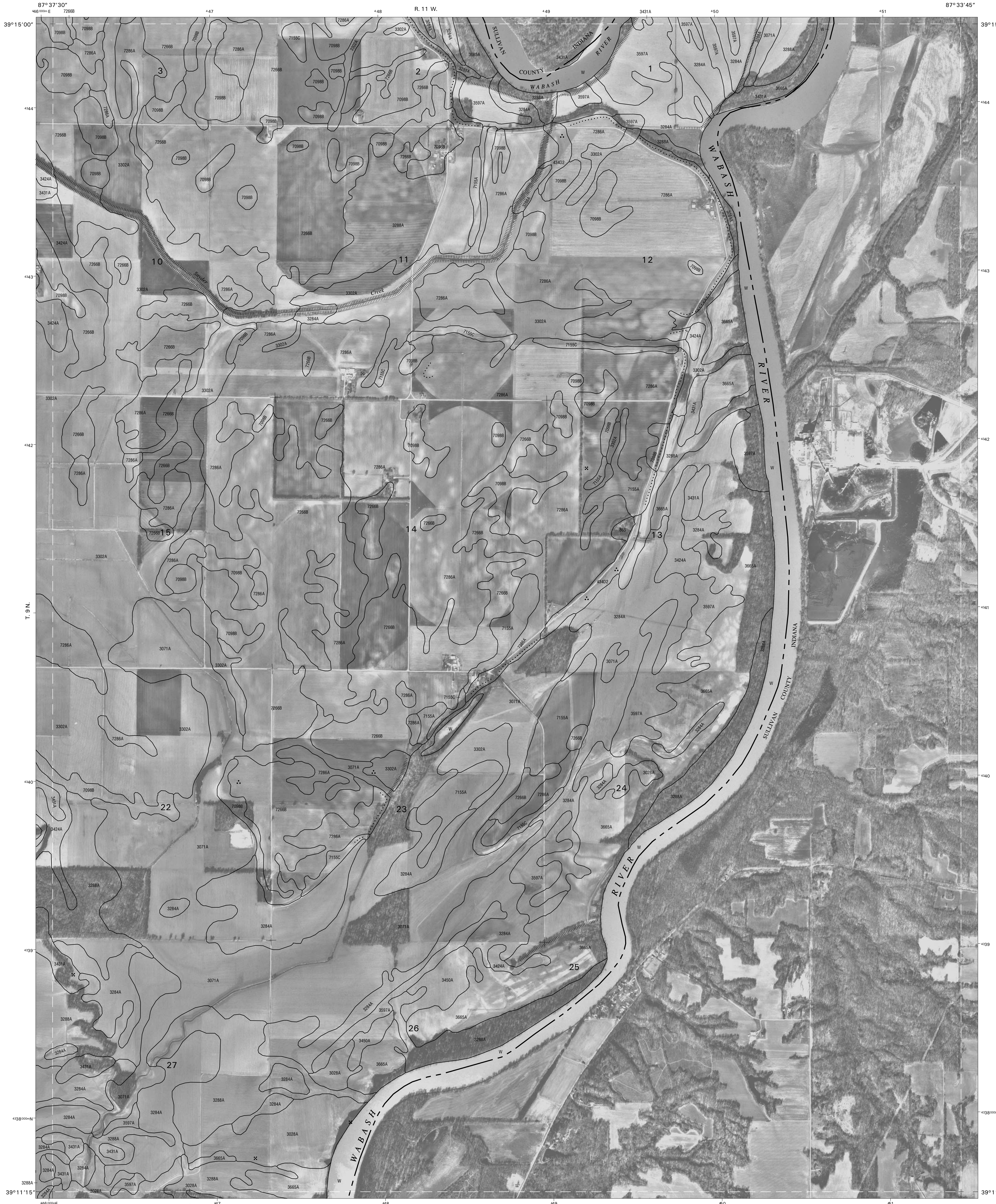
CLARK COUNTY, ILLINOIS
FAIRBANKS NW QUADRANGLE
SHEET NUMBER 43 OF 51



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

34	35	A
42		B
50	51	C

34 SNYDER SE
35 HUTTON SW
A HUTTON SE
42 WEST UNION NE
B FAIRBANKS NE
50 WEST UNION SE
51 FAIRBANKS SW
C FAIRBANKS SE

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FAIRBANKS NW, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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CLARK COUNTY, ILLINOIS
HAZEL DELL SE QUADRANGLE
SHEET NUMBER 44 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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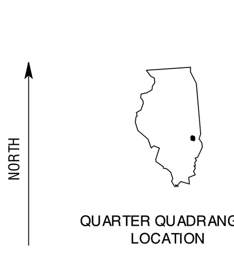
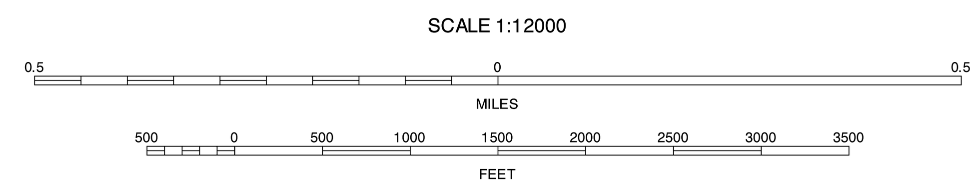
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	36	37
B		45
C	D	E

A HAZEL DELL NW
36 HAZEL DELL NE
37 MORIAH NW
B HAZEL DELL SW
45 MORIAH SW
C YALE NW
D YALE NE
E OBLONG NORTH NW

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HAZEL DELL SE, ILLINOIS

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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CLARK COUNTY, ILLINOIS
MORIAH SW QUADRANGLE
SHEET NUMBER 45 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
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1000-meter ticks: Universal Transverse Mercator, zone 16.
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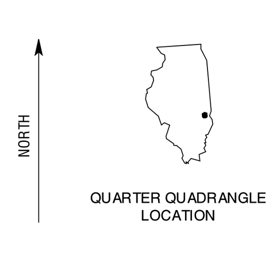
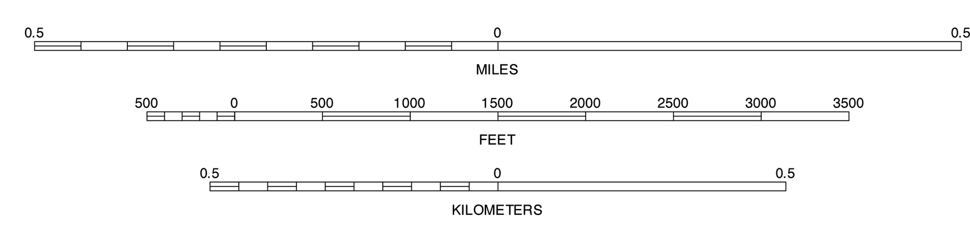


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



36	37	38
44		46
A	B	C

36 HAZEL DELL NE
37 MORIAH NW
38 MORIAH NE
44 HAZEL DELL SE
46 MORIAH SE
A YALE NE
B OBLONG NORTH NW
C OBLONG NORHT NE

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CLARK COUNTY, ILLINOIS
MORIAH SE QUADRANGLE
SHEET NUMBER 46 OF 51

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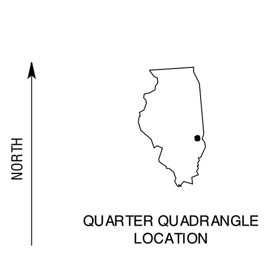

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

37	38	39
45		47
A	B	C

37 MORIAH NW
38 MORIAH NE
39 ANNAPOLIS NW
45 MORIAH SW
47 ANNAPOLIS SW
A OBLONG NORTH NW
B OBLONG NORTH NE
C EATON NW

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CLARK COUNTY, ILLINOIS
ANNAPOLIS SW QUADRANGLE
SHEET NUMBER 47 OF 51

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
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Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

38	39	40
46		48
A	B	C

38 MORIAH NE
39 ANNAPOLIS NW
40 ANNAPOLIS NE
46 MORIAH SE
48 ANNAPOLIS SE
A OBLONG NORTH NE
B EATON NW
C EATON NE

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CLARK COUNTY, ILLINOIS
ANNAPOLIS SE QUADRANGLE
SHEET NUMBER 48 OF 51

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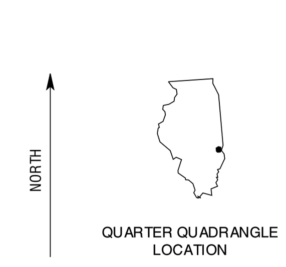

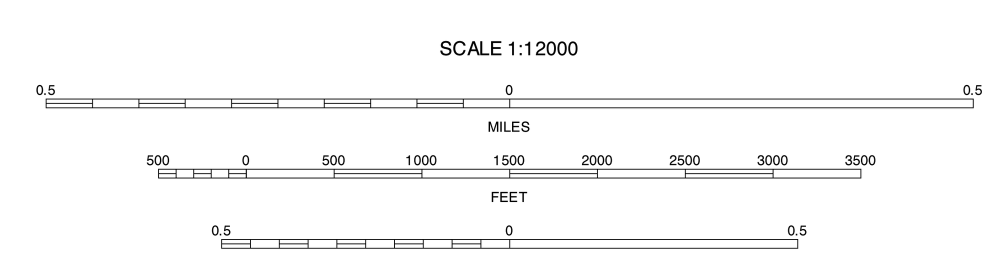

39	40	41
47		49
A	B	C

39 ANNAPOLIS NW
40 ANNAPOLIS NE
41 WEST UNION NW
47 ANNAPOLIS SW
49 WEST UNION SW
A EATON NW
B EATON NE
C HUTSONVILLE NW

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CLARK COUNTY, ILLINOIS
WEST UNION SW QUADRANGLE
SHEET NUMBER 49 OF 51

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

40	41	42
48		50
A	B	C

40 ANNAPOLIS NE
41 WEST UNION NW
42 WEST UNION NE
48 ANNAPOLIS SE
50 WEST UNION SE
A EATON NE
B HUTSONVILLE NW
C HUTSONVILLE NE

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CLARK COUNTY, ILLINOIS
WEST UNION SE QUADRANGLE
SHEET NUMBER 50 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

41	42	43
49		51
A	B	C

41 WEST UNION NW
42 WEST UNION NE
43 FAIRBANKS NW
49 WEST UNION SW
51 FAIRBANKS SW
A HUTSONVILLE NW
B HUTSONVILLE NE
C MEROM NW

INDEX TO ADJOINING 3.75 MAPS

WEST UNION SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 50 OF 51

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLARK COUNTY, ILLINOIS
FAIRBANKS SW QUADRANGLE
SHEET NUMBER 51 OF 51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
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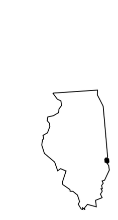
NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5
MILES

500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500
FEET

0.5 — 0 — 0.5
KILOMETERS

42	43	A
50		B
C	D	E

42 WEST UNION NE
43 FAIRBANKS NW
A FAIRBANKS NE
50 WEST UNION SE
B FAIRBANKS SE
C HUTSONVILLE NE
D MEROM NW
E MEROM NE

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FAIRBANKS SW, ILLINOIS
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